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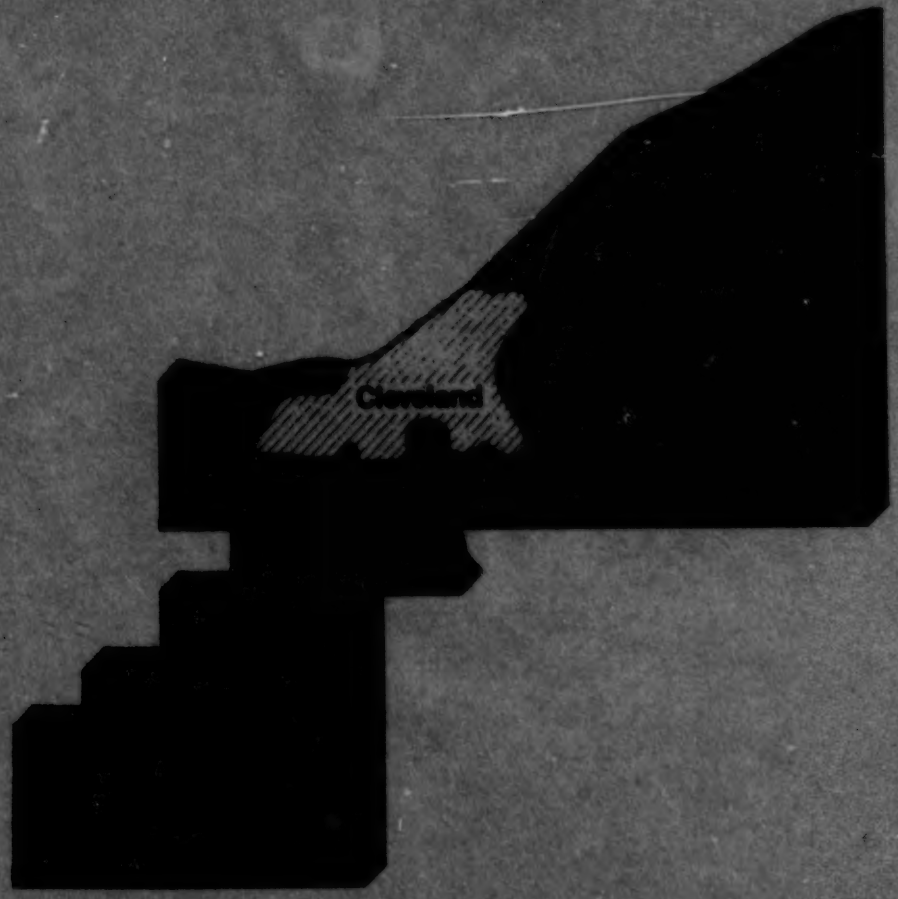
Area Wage Survey

Cleveland, Ohio, Metropolitan Area September 1990

U. S. Department of Labor
Bureau of Labor Statistics

Bulletin 3055-36



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Preface

This bulletin provides results of a September 1990 survey of occupational earnings and employee benefits in the Cleveland, OH, Primary Metropolitan Statistical Area. The survey was made as part of the Bureau of Labor Statistics' area wage survey program. It was conducted by the Bureau's regional office in Chicago, IL, under the general direction of Ronald H. Pritzlaff, Assistant Regional Commissioner for Operations. The Bureau wishes to express its appreciation for the cooperation of the many firms that provided the data on which this bulletin is based.

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Note:

A report on occupational earnings and employee benefits in the Cleveland area is available for the metalworking machinery manufacturing industry (February 1990). This report is available from the Bureau's regional offices. Regional offices also have available five summary releases: *Occupational Earnings and Wage Trends in Metropolitan Areas* (3 parts); *Occupational Earnings in All Metropolitan Areas* (combined); and *Wage Differences Among Metropolitan Areas*.

A summary bulletin, *Area Wage Surveys, Selected Metropolitan Areas*, provides data for all areas surveyed under this program during the year. It can be purchased from the Superintendent of Documents or from the BLS Publications Sales Center in Chicago.

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Bureau of Labor Statistics
Janet L. Norwood, Commissioner
December 1990

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Introduction

The Bureau of Labor Statistics is restructuring its area wage survey program to reflect changes in the number and geographic boundaries of the Nation's metropolitan statistical areas. In place of annual studies of 70 areas, the new program, when fully implemented in 1990, will cover 32 areas on an annual basis and two groups of 29 areas in alternate years.

This is 1 of the 32 areas being surveyed each year. While occupational earnings are presented annually (A-series tables), information on establishment practices and employee benefits (B-series tables) is presented every fourth year, when Bureau field representatives obtain such data during personal visits to respondents.

A major consideration in the area wage survey program is the need to describe the level and movement of wages in a variety of labor markets, through the analysis of (1) the level and distribution of wages by occupation, and (2) the movement of wages by occupational category and skill level. The program develops information that may be used for many purposes, including wage and salary administration, collective bargaining, and assistance in determining plant location. Survey results also are used by the U.S. Department of Labor to make wage determinations under the Service Contract Act of 1965.

Earnings

Tables A-1 through A-6 provide estimates of straight-time weekly or hourly earnings for workers in occupations common to a variety of manufacturing and nonmanufacturing industries. Where possible, occupations with related duties (e.g., accounting clerks and payroll clerks) are clustered to facilitate comparison. The occupations are defined in appendix B. For 31 large survey areas, tables A-12 through A-17 provide similar data for establishments employing 500 workers or more.

Table A-7 provides indexes and percent changes in average hourly earnings for office clerical workers, electronic data processing workers, industrial nurses, skilled maintenance trades workers, and unskilled plant workers. Where possible, data are presented for all industries and for manufacturing and nonmanufacturing separately. Data are not presented for skilled maintenance workers in nonmanufacturing because the number of workers employed in this occupational group in nonmanufacturing is too small to warrant separate presentation. This table provides a measure of wage trends after elimination of changes in average earnings caused by employment shifts among establishments as well as turnover of establishments included in survey samples. For further details, see appendix A.

Tables A-8 through A-11 provide measures of pay relationships in establishments. These measures may differ considerably from the pay relationships of overall area averages published in tables A-1 through A-6. See appendix A for details.

Establishment practices and benefits

The B-series tables present information on minimum entrance salaries for inexperienced typists and clerks; late-shift pay provisions and practices for production and related workers in manufacturing; and data separately for production and related workers and office workers on scheduled weekly hours and days of first-shift workers; paid holidays; paid vacations; insurance, health, and retirement plan provisions; health plan participation; and other selected benefits.

Appendixes

Appendix A describes the methods and concepts used in the area wage survey program. It provides information on the scope of the area survey, the area's industrial composition in manufacturing, and labor-management agreement coverage.

Appendix B provides job descriptions used by Bureau field representatives to classify workers by occupation.

Table A-1. Weekly earnings of office workers in Cleveland, OH, September 1990

Occupation and industry division	Number of workers	Average weekly hours[1] (standard)	Weekly earnings (in dollars)[2]			Number of workers receiving straight-time weekly earnings (in dollars) of —																				
			Mean[3]	Median[3]	Middle range[4]	Under 200	200 and under 220	220 – 240	240 – 260	260 – 280	280 – 300	300 – 320	320 – 340	340 – 360	360 – 380	380 – 400	400 – 420	420 – 440	440 – 460	460 – 480	480 – 500	500 – 540	540 – 580	580 – 620	620 – 700	700 and over
Secretarial and keyboarding occupations																										
Secretaries	2,085	39.5	445.50	430.50	376.50– 507.00	–	–	15	3	31	42	55	103	119	181	177	199	200	136	154	118	177	182	97	78	21
Manufacturing	1,058	39.5	480.00	472.00	413.50– 536.50	–	–	–	–	–	3	12	24	23	58	94	89	82	77	108	90	140	119	64	65	12
Nonmanufacturing	1,027	39.5	409.50	401.50	349.50– 446.50	–	–	15	3	31	39	43	79	95	125	83	110	118	59	46	28	37	63	33	11	9
Transportation and utilities	69	40.0	532.00	548.00	480.50– 558.00	–	–	–	–	–	–	–	–	–	2	–	2	1	2	10	4	7	27	10	3	1
Secretaries I	200	39.0	378.00	380.50	296.00– 451.00	–	–	15	3	24	17	4	8	25	27	11	12	3	5	10	8	6	21	2	1	–
Manufacturing	64	39.5	423.50	397.00	367.00– 476.50	–	–	–	–	–	–	2	4	8	7	11	10	2	2	2	4	1	8	2	1	–
Nonmanufacturing	136	38.5	356.50	344.50	279.00– 429.50	–	–	15	3	24	17	2	2	17	20	–	2	1	3	8	4	5	13	–	–	–
Secretaries II	268	40.0	373.50	368.50	326.50– 413.50	–	–	–	–	7	19	30	36	24	29	38	25	19	12	10	8	4	3	–	–	–
Manufacturing	119	40.0	396.50	393.50	363.50– 429.00	–	–	–	–	–	3	9	8	7	17	23	18	11	10	3	3	4	3	–	–	–
Nonmanufacturing	147	39.5	355.00	339.50	317.00– 388.50	–	–	–	–	7	16	21	30	17	12	15	7	8	2	7	5	–	–	–	–	–
Secretaries III	835	40.0	433.00	425.00	384.00– 474.50	–	–	–	–	–	6	19	51	37	87	89	95	107	64	88	57	77	25	16	16	1
Manufacturing	484	39.5	463.50	461.50	414.50– 500.50	–	–	–	–	–	–	1	10	5	26	48	47	50	45	76	52	59	22	16	16	1
Nonmanufacturing	351	40.0	390.50	387.50	353.00– 424.00	–	–	–	–	–	6	18	41	32	61	41	48	57	19	12	5	8	3	–	–	–
Secretaries IV	603	40.0	484.00	471.50	409.00– 550.50	–	–	–	–	–	–	2	8	32	35	36	52	62	49	39	38	76	71	49	49	5
Manufacturing	286	39.5	527.00	530.50	483.50– 588.00	–	–	–	–	–	–	–	2	3	6	10	9	14	18	22	26	55	47	27	44	3
Nonmanufacturing	317	40.0	445.50	426.00	391.50– 488.50	–	–	–	–	–	–	2	6	29	29	26	43	48	31	17	12	21	24	22	5	2
Secretaries V	180	40.0	554.00	565.00	485.00– 592.00	–	–	–	–	–	–	–	–	–	3	3	15	9	6	7	7	14	61	30	10	15
Manufacturing	105	40.0	556.50	566.00	505.00– 588.50	–	–	–	–	–	–	–	–	–	–	2	5	5	2	5	5	11	39	19	4	8
Nonmanufacturing	75	39.5	551.00	553.00	448.50– 595.00	–	–	–	–	–	–	–	–	–	3	1	10	4	4	2	2	3	22	11	6	7
Typists	514	39.5	352.00	324.00	280.50– 479.00	–	12	48	68	65	40	19	31	32	8	7	–	–	–	106	76	2	–	–	–	–
Manufacturing	50	40.0	321.00	321.50	299.00– 348.00	–	–	2	7	5	10	8	13	3	2	–	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	464	39.0	355.00	326.50	254.50– 479.00	–	12	48	66	58	35	9	23	19	5	5	–	–	–	106	76	2	–	–	–	–
Typists I	249	38.5	304.50	276.00	241.00– 335.00	–	12	38	51	49	21	10	8	11	2	–	–	–	–	47	–	–	–	–	–	–
Typists II	265	40.0	396.50	479.00	313.50– 484.50	–	–	10	17	16	19	9	23	21	6	7	–	–	–	59	76	2	–	–	–	–
Nonmanufacturing	250	40.0	400.00	479.00	304.00– 484.50	–	–	10	17	16	17	6	21	17	4	5	–	–	–	59	76	2	–	–	–	–
Word processors	252	39.5	329.50	295.00	277.00– 378.50	–	–	12	29	29	59	14	19	14	14	13	11	7	6	12	11	1	1	–	–	–
Nonmanufacturing	214	39.5	320.50	289.00	277.00– 355.00	–	–	12	29	28	57	11	15	10	11	3	9	3	4	11	9	1	1	–	–	–
Word processors I	154	39.5	291.00	288.50	249.50– 300.00	–	–	12	28	19	54	9	12	8	3	2	4	3	–	–	–	–	–	–	–	–
Word processors II	98	40.0	389.00	391.50	326.50– 483.00	–	–	–	1	10	5	5	7	6	11	11	7	4	6	12	11	1	1	–	–	–
Nonmanufacturing	76	40.0	387.00	375.00	321.50– 472.50	–	–	–	1	9	5	2	7	6	10	3	5	2	4	11	9	1	1	–	–	–
Key entry operators	1,045	40.0	299.50	286.00	240.00– 350.00	6	75	162	137	88	137	64	78	125	70	30	2	6	19	10	16	13	7	–	–	–
Manufacturing	215	39.5	337.50	333.00	293.00– 373.50	6	–	9	19	10	18	26	28	32	17	18	–	4	16	–	2	10	–	–	–	–
Nonmanufacturing	830	40.0	289.50	275.00	234.00– 330.00	–	75	153	118	76	119	38	50	93	53	12	2	4	3	10	14	3	7	–	–	–
Transportation and utilities	83	40.0	370.00	337.00	288.00– 462.00	–	–	–	8	8	16	1	10	4	3	4	1	3	3	10	2	3	7	–	–	–
Key entry operators I	622	40.0	262.50	249.50	226.50– 286.00	–	75	162	121	69	93	36	32	8	6	6	1	–	3	6	–	–	–	–	–	–
Manufacturing	62	40.0	291.50	285.50	251.50– 320.00	–	–	9	15	3	10	9	5	3	4	4	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	560	40.0	259.00	247.50	226.00– 286.00	–	75	153	106	66	83	27	27	5	4	2	1	–	3	6	–	–	–	–	–	–
Transportation and utilities	37	40.0	361.50	330.00	288.00– 450.00	–	–	–	–	–	12	1	6	2	3	2	–	–	3	6	–	–	–	–	–	–
Key entry operators II	423	39.5	353.50	350.00	307.50– 385.00	6	–	–	16	17	44	28	46	117	62	24	1	6	16	2	16	13	7	–	–	–
Manufacturing	153	39.5	356.00	346.00	308.50– 391.00	6	–	–	4	7	8	17	23	29	13	14	–	4	16	–	2	10	–	–	–	–
Nonmanufacturing	270	39.5	352.00	350.00	307.00– 382.00	–	–	–	12	10	36	11	23	88	49	10	1	4	–	2	14	3	7	–	–	–
Transportation and utilities	48	40.0	376.50	337.00	269.00– 490.00	–	–	–	8	8	4	–	4	2	–	2	1	3	–	2	2	3	7	–	–	–
Other clerical occupations																										
Accounting clerks	2,369	40.0	356.50	338.50	290.00– 409.00	–	64	59	108	171	282	253	268	174	173	144	133	118	63	138	117	55	15	12	24	–
Manufacturing	890	39.5	380.00	378.00	329.50– 424.50	–	–	–	6	39	45	72	121	64	104	100	100	88	51	32	31	22	9	6	–	–
Nonmanufacturing	1,479	40.0	342.50	318.50	280.00– 387.50	–	64	59	100	132	237	181	147	110	69	44	33	30	12	106	86	33	6	6	24	–
Transportation and utilities	316	40.0	460.50	467.00	426.50– 491.50	–	–	–	16	4	14	3	2	12	5	12	7	8	5	99	82	13	4	6	24	–

See footnotes at end of tables.

Table A-1. Weekly earnings of office workers in Cleveland, OH, September 1990 —Continued

Occupation and industry division	Number of workers	Average weekly hours[1] (standard)	Weekly earnings (in dollars)[2]			Number of workers receiving straight-time weekly earnings (in dollars) of —																				
			Mean[3]	Median[4]	Middle range[5]	Under 200	200 and under 220	220 – 240	240 – 260	260 – 280	280 – 300	300 – 320	320 – 340	340 – 360	360 – 380	380 – 400	400 – 420	420 – 440	440 – 460	460 – 480	480 – 500	500 – 540	540 – 580	580 – 620	620 – 700	700 and over
Accounting clerks I	285	40.0	337.50	293.00	269.00– 467.00	–	–	30	19	49	47	15	8	2	41	1	–	–	–	73	–	–	–	–	–	–
Nonmanufacturing	263	40.0	337.50	290.00	269.00– 467.00	–	–	30	19	49	45	11	3	–	33	–	–	–	–	73	–	–	–	–	–	–
Accounting clerks II	1,181	40.0	318.50	310.50	280.00– 338.50	–	84	29	80	111	226	188	195	41	50	67	41	26	8	29	5	22	1	–	–	–
Manufacturing	434	40.0	343.00	332.00	310.50– 388.50	–	–	–	6	37	43	63	93	27	45	58	38	16	4	–	3	1	–	–	–	–
Nonmanufacturing	747	40.0	304.00	290.00	269.00– 323.00	–	84	29	74	74	183	123	102	14	5	9	3	10	4	29	2	21	1	–	–	–
Transportation and utilities	83	40.0	372.50	354.00	288.00– 479.00	–	–	–	18	4	12	–	1	10	2	2	3	2	1	26	–	3	1	–	–	–
Accounting clerks III	662	39.5	399.00	395.50	353.50– 445.50	–	–	–	5	5	7	46	50	113	66	50	71	79	37	21	95	11	5	1	–	–
Manufacturing	331	39.5	409.00	405.00	366.00– 437.50	–	–	–	–	–	–	4	19	30	48	36	56	63	33	18	14	6	5	1	–	–
Nonmanufacturing	331	40.0	389.00	357.00	340.00– 491.50	–	–	–	5	5	7	42	31	83	20	14	15	16	4	3	81	5	–	–	–	–
Accounting clerks IV	219	40.0	458.00	432.00	379.00– 514.50	–	–	–	–	2	–	6	15	16	18	26	21	13	11	12	15	22	9	11	24	–
Manufacturing	95	39.5	452.50	460.50	405.00– 501.00	–	–	–	–	2	–	1	4	5	5	5	6	9	9	11	14	15	4	5	–	–
Nonmanufacturing	124	40.0	462.50	405.00	372.50– 572.50	–	–	–	–	–	–	5	11	11	11	21	15	4	2	1	1	7	5	6	24	–
Payroll clerks	367	40.0	365.00	345.50	308.50– 409.00	–	1	5	3	9	47	59	21	79	17	18	31	25	7	16	8	9	6	–	4	2
Manufacturing	179	40.0	381.00	381.00	320.00– 432.50	–	–	4	–	–	24	16	21	13	9	15	28	16	3	16	1	8	3	–	2	–
Nonmanufacturing	188	40.0	350.00	345.00	308.00– 357.00	–	1	1	3	9	23	43	–	66	8	3	3	9	4	–	7	1	3	–	2	2
File clerks	350	39.0	250.50	249.50	218.00– 257.00	* 35	68	46	126	28	18	5	2	7	3	1	1	–	–	5	–	1	4	–	–	–
Manufacturing	70	40.0	251.00	250.00	200.00– 272.50	–	24	4	23	6	3	1	1	6	1	–	–	–	–	–	–	1	–	–	–	–
Nonmanufacturing	280	38.5	250.00	249.50	219.00– 257.00	35	44	42	103	20	15	4	1	1	2	1	1	–	–	5	–	–	4	–	–	–
File clerks I	113	40.0	230.50	208.00	200.00– 250.00	27	33	9	25	8	3	1	1	3	1	1	1	–	–	–	–	–	–	–	–	–
Manufacturing	53	40.0	235.50	250.00	200.00– 250.00	–	23	–	22	4	2	–	–	2	–	–	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	60	39.5	226.50	201.00	199.50– 238.00	27	10	9	3	4	1	1	1	1	1	1	1	–	–	–	–	–	–	–	–	–
File clerks II	203	38.5	256.00	249.50	223.50– 257.00	8	29	34	100	18	2	3	–	1	1	–	–	–	–	5	–	–	4	–	–	–
Order clerks	730	40.0	265.50	212.00	197.00– 353.00	* * 242	151	52	28	35	7	4	1	85	39	5	15	7	11	15	13	17	3	–	–	–
Manufacturing	203	40.0	350.00	340.00	280.00– 410.00	–	4	4	28	35	5	4	1	51	7	5	14	3	2	11	13	13	3	–	–	–
Order clerks I: Manufacturing	76	40.0	298.50	280.00	249.50– 352.00	–	4	4	13	26	5	2	1	3	7	3	2	2	–	2	2	–	–	–	–	–
Order clerks II	215	40.0	384.00	357.50	353.00– 443.00	–	–	–	15	9	–	2	–	82	32	2	13	5	11	13	11	17	3	–	–	–
Manufacturing	127	40.0	382.00	353.00	340.00– 473.50	–	–	–	15	9	–	2	–	48	–	2	12	1	2	9	11	13	3	–	–	–
Receptionists	86	39.5	298.00	272.00	250.00– 359.50	–	8	2	25	10	10	2	4	5	9	3	2	4	–	1	–	1	–	–	–	–
Nonmanufacturing	54	39.5	308.50	286.50	283.00– 372.00	–	8	–	5	10	8	2	2	5	7	2	1	2	–	1	–	1	–	–	–	–
Switchboard operators	132	39.5	271.50	250.50	200.00– 320.50	6	46	8	11	14	4	10	8	7	4	4	5	1	1	3	–	2	–	–	–	–
Nonmanufacturing	100	39.5	250.50	208.00	200.00– 276.00	6	46	8	8	10	3	5	–	2	3	2	3	–	1	3	–	–	–	–	–	–
Switchboard operator-receptionists	678	39.5	280.50	269.00	240.00– 315.00	–	49	105	102	102	108	50	46	77	10	22	–	8	1	–	–	–	–	–	–	–
Manufacturing	236	40.0	308.50	294.00	289.00– 340.00	–	–	–	4	53	78	25	14	33	4	22	–	2	1	–	–	–	–	–	–	–
Nonmanufacturing	442	39.0	265.50	249.50	230.50– 300.00	–	49	105	98	49	30	25	32	44	6	–	–	4	–	–	–	–	–	–	–	–

* All workers were at 180 to 200.
* * All workers were at 180 to 200.
Also see footnotes at end of tables.

Table A-2. Weekly earnings of professional and technical workers in Cleveland, OH, September 1990

Occupation and industry division	Number of workers	Average weekly hours[1] (standard)	Weekly earnings (in dollars)[2]			Number of workers receiving straight-time weekly earnings (in dollars) of —																			
			Mean[3]	Median[4]	Middle range[5]	200 and under 240	240 – 280	280 – 320	320 – 360	360 – 400	400 – 440	440 – 480	480 – 520	520 – 560	560 – 600	600 – 640	640 – 680	680 – 720	720 – 760	760 – 800	800 – 840	840 – 880	880 – 960	960 – 1040	1040 – 1120	1120 and over
Computer systems analysts	2,503	40.0	807.00	793.00	714.00– 898.50	–	–	–	–	–	–	1	1	26	118	134	181	187	356	332	274	184	423	124	102	60
Manufacturing	644	39.5	805.00	789.00	704.00– 902.00	–	–	–	–	–	–	1	1	14	44	31	49	55	87	73	49	52	78	55	32	23
Computer systems analysts I:																										
Manufacturing	65	40.0	602.00	599.00	576.00– 616.50	–	–	–	–	–	–	1	1	7	25	23	1	4	3	–	–	–	–	–	–	–
Computer systems analysts II	946	40.0	741.50	748.50	686.50– 798.50	–	–	–	–	–	–	–	–	19	61	79	62	100	224	179	103	38	79	2	–	–
Manufacturing	241	39.5	739.50	736.00	691.00– 800.00	–	–	–	–	–	–	–	–	7	19	6	21	39	62	26	21	20	18	2	–	–
Nonmanufacturing	705	40.0	742.00	749.00	685.50– 797.50	–	–	–	–	–	–	–	–	12	42	73	41	61	162	153	82	18	61	–	–	–
Computer systems analysts III	899	40.0	856.00	863.00	789.00– 933.00	–	–	–	–	–	–	–	–	–	1	2	43	23	63	151	121	136	251	77	29	2
Manufacturing	246	39.5	836.50	826.00	756.00– 912.00	–	–	–	–	–	–	–	–	–	–	2	27	12	22	47	24	28	44	29	9	2
Nonmanufacturing	653	40.0	863.50	870.00	797.50– 941.50	–	–	–	–	–	–	–	–	–	1	–	16	11	41	104	97	108	207	48	20	–
Computer systems analysts IV	231	40.0	1039.50	1053.00	957.00–1118.00	–	–	–	–	–	–	–	–	–	–	–	–	–	6	2	5	10	48	42	71	* 47
Manufacturing	83	39.5	1022.50	1018.00	937.00–1101.00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	4	4	16	22	22	15
Computer programmers	1,109	40.0	592.00	576.00	519.50– 652.00	–	–	–	2	15	92	83	112	210	180	122	79	57	63	43	39	15	10	5	2	–
Manufacturing	338	39.5	660.50	633.00	567.50– 749.00	–	–	–	–	4	2	10	13	37	49	59	32	27	26	26	27	10	7	5	2	–
Nonmanufacturing	771	40.0	562.00	555.00	499.00– 619.00	–	–	–	2	11	90	53	99	173	131	63	47	30	37	15	12	5	3	–	–	–
Computer programmers I	89	40.0	448.50	454.00	403.00– 499.50	–	–	–	2	10	30	23	13	4	5	2	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	73	40.0	433.00	403.00	403.00– 472.00	–	–	–	2	10	30	16	12	2	–	1	–	–	–	–	–	–	–	–	–	–
Computer programmers II	278	40.0	517.50	528.50	441.50– 565.50	–	–	–	–	5	62	22	37	73	42	23	11	3	–	–	–	–	–	–	–	–
Manufacturing	115	39.5	560.00	565.50	538.50– 600.50	–	–	–	–	4	2	3	12	31	33	19	9	2	–	–	–	–	–	–	–	–
Nonmanufacturing	163	40.0	487.50	480.00	432.00– 533.00	–	–	–	–	1	60	19	25	42	9	4	2	1	–	–	–	–	–	–	–	–
Computer programmers III	434	40.0	594.00	578.50	537.50– 633.50	–	–	–	–	–	–	18	62	88	87	86	30	23	17	17	5	1	–	–	–	–
Manufacturing	122	39.5	671.00	654.00	610.00– 731.00	–	–	–	–	–	–	–	–	4	11	39	18	17	13	14	5	1	–	–	–	–
Nonmanufacturing	312	40.0	564.00	557.00	519.00– 595.00	–	–	–	–	–	–	18	62	84	76	47	12	6	4	3	–	–	–	–	–	–
Computer programmers IV	270	40.0	682.50	665.00	576.00– 766.00	–	–	–	–	–	–	–	–	45	46	11	38	22	40	19	30	11	3	3	2	–
Manufacturing	72	39.5	794.00	793.00	728.00– 826.50	–	–	–	–	–	–	–	–	–	–	–	5	8	12	13	20	7	2	3	2	–
Computer operators	756	40.0	413.00	419.50	345.50– 480.50	45	18	62	112	114	95	119	100	41	31	7	4	6	–	–	1	1	–	–	–	–
Manufacturing	312	39.5	452.50	441.50	386.00– 502.00	1	4	8	31	52	42	81	28	24	25	7	1	6	–	–	1	1	–	–	–	–
Nonmanufacturing	444	40.0	385.50	383.00	318.50– 462.00	44	14	54	81	62	53	38	72	17	6	–	3	–	–	–	–	–	–	–	–	–
Computer operators I	54	40.0	341.50	324.00	284.00– 383.00	–	10	16	6	11	7	4	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Computer operators II	361	40.0	371.50	361.50	324.50– 434.50	44	8	33	91	83	42	21	54	2	–	–	3	–	–	–	–	–	–	–	–	–
Manufacturing	70	39.5	381.00	381.50	345.50– 401.50	–	–	7	16	29	9	8	1	–	–	–	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	291	40.0	369.00	358.00	315.00– 438.00	44	8	26	75	34	33	13	53	2	–	–	3	–	–	–	–	–	–	–	–	–
Computer operators III	244	39.5	448.00	443.50	401.50– 483.00	1	–	13	12	35	39	79	30	20	10	2	–	3	–	–	–	–	–	–	–	–
Manufacturing	149	39.5	450.50	441.50	419.50– 474.50	1	–	1	10	18	27	58	18	9	4	2	–	3	–	–	–	–	–	–	–	–
Nonmanufacturing	95	40.0	444.00	448.50	388.00– 507.00	–	–	12	2	17	12	21	14	11	6	–	–	–	–	–	–	–	–	–	–	–
Computer operators IV	97	40.0	521.50	523.50	474.00– 566.50	–	–	–	3	5	7	15	18	19	21	5	1	3	–	–	1	1	–	–	–	–
Manufacturing	84	40.0	525.50	531.00	467.00– 568.00	–	–	–	3	5	6	12	11	15	21	5	1	3	–	–	1	1	–	–	–	–
Drafters	407	40.0	490.00	506.50	405.00– 554.00	–	9	1	27	55	37	45	99	38	27	49	11	6	3	–	–	–	–	–	–	–
Manufacturing	204	40.0	511.50	514.50	462.00– 604.50	–	9	–	8	18	8	39	22	21	25	39	10	4	1	–	–	–	–	–	–	–
Nonmanufacturing	203	40.0	468.50	490.50	398.00– 511.00	–	–	1	19	37	29	6	77	17	2	10	1	2	2	–	–	–	–	–	–	–
Drafters III	100	40.0	415.50	399.00	371.50– 439.00	–	–	1	12	38	25	12	2	–	9	1	–	–	–	–	–	–	–	–	–	–

See footnotes at end of tables.

Table A-2. Weekly earnings of professional and technical workers in Cleveland, OH, September 1990 —Continued

Occupation and industry division	Number of workers	Average weekly hours[1] (standard)	Weekly earnings (in dollars)[2]			Number of workers receiving straight-time weekly earnings (in dollars) of —																				
			Mean[3]	Median[3]	Middle range[3]	200 and under 240	240 – 280	280 – 320	320 – 360	360 – 400	400 – 440	440 – 480	480 – 520	520 – 560	560 – 600	600 – 640	640 – 680	680 – 720	720 – 760	760 – 800	800 – 840	840 – 880	880 – 960	960 – 1040	1040 – 1120	1120 and over
Drafters IV	192	40.0	515.00	511.00	490.50– 535.00	–	–	–	–	1	11	29	92	36	14	2	3	3	1	–	–	–	–	–	–	–
Nonmanufacturing	110	40.0	511.50	511.00	504.50– 511.00	–	–	–	–	1	8	4	75	17	2	–	1	2	–	–	–	–	–	–	–	–
Drafters V	73	40.0	610.50	617.00	604.50– 630.00	–	–	–	–	–	–	3	5	2	4	46	8	3	2	–	–	–	–	–	–	–
Manufacturing	61	40.0	604.50	614.00	604.50– 629.00	–	–	–	–	–	–	3	5	2	4	36	8	3	–	–	–	–	–	–	–	–
Electronics technicians	840	40.0	588.50	621.50	510.00– 683.50	–	–	8	18	51	44	39	79	77	79	48	31	362	2	–	2	–	–	–	–	–
Manufacturing	482	40.0	515.50	525.50	444.50– 580.50	–	–	8	17	39	43	39	79	77	77	48	30	5	2	–	–	–	–	–	–	–
Electronics technicians I	79	40.0	404.00	384.00	360.00– 434.00	–	–	2	17	33	12	3	3	6	3	–	–	–	–	–	–	–	–	–	–	–
Manufacturing	67	40.0	407.50	381.00	349.50– 438.50	–	–	2	17	21	12	3	3	6	3	–	–	–	–	–	–	–	–	–	–	–
Electronics technicians II	211	40.0	542.00	514.50	462.00– 710.00	–	–	6	1	13	21	23	48	22	18	5	1	55	–	–	–	–	–	–	–	–
Manufacturing	153	40.0	483.00	494.00	440.00– 534.00	–	–	6	–	13	20	23	48	22	18	4	1	–	–	–	–	–	–	–	–	–
Electronics technicians III	550	40.0	633.00	683.50	582.00– 683.50	–	–	–	–	5	11	13	28	49	60	43	30	307	2	–	2	–	–	–	–	–
Manufacturing	242	40.0	565.50	573.50	526.00– 621.00	–	–	–	–	5	11	13	28	49	58	42	29	5	2	–	–	–	–	–	–	–
Registered industrial nurses	51	40.0	621.50	614.50	543.50– 711.00	–	–	–	–	–	–	1	5	9	8	5	8	3	11	1	–	–	–	–	–	–

[1] Workers were distributed as follows: 29 at 1120 to 1200; 17 at 1280 to 1360; and 1 at 1360 to 1440.

Also see footnotes at end of tables.

Table A-3. Average weekly earnings of office, professional, and technical workers, by sex, in Cleveland, OH, September 1990

Sex,[4] occupation, and industry division	Number of workers	Average (mean[2])	
		Weekly hours[1] (standard)	Weekly earnings (in dollars)[3]
Office occupations - men			
Accounting clerks:			
Manufacturing	50	40.0	410.00
Order clerks:			
Manufacturing	78	40.0	383.50
Order clerks II	78	40.0	397.00
Office occupations - women			
Secretaries	2,056	39.5	444.00
Manufacturing	1,056	39.5	479.50
Nonmanufacturing	1,000	39.5	408.00
Secretaries I	199	39.0	377.00
Manufacturing	63	39.5	421.50
Nonmanufacturing	136	38.5	358.50
Secretaries II	264	40.0	373.00
Manufacturing	119	40.0	396.50
Nonmanufacturing	145	39.5	353.50
Secretaries III	833	40.0	433.00
Manufacturing	484	39.5	463.50
Nonmanufacturing	349	40.0	390.50
Secretaries IV	581	40.0	481.00
Manufacturing	286	39.5	527.00
Nonmanufacturing	295	40.0	436.50
Secretaries V	179	40.0	552.50
Manufacturing	104	40.0	554.00
Nonmanufacturing	75	39.5	551.00
Typists:			
Manufacturing	50	40.0	321.00
Word processors	236	39.5	319.00
Nonmanufacturing	198	39.5	307.50
Word processors I	154	39.5	291.00
Word processors II	82	40.0	371.00
Key entry operators	993	40.0	300.50
Manufacturing	204	39.5	343.00
Nonmanufacturing	789	40.0	289.50
Transportation and utilities	77	40.0	380.00
Key entry operators I	575	40.0	262.00
Manufacturing	51	40.0	304.00
Nonmanufacturing	524	40.0	258.00
Key entry operators II	418	39.5	353.00
Manufacturing	153	39.5	356.00
Nonmanufacturing	265	39.5	351.00
Transportation and utilities	44	40.0	388.50
Accounting clerks	2,075	40.0	343.50
Manufacturing	840	39.5	378.50
Nonmanufacturing	1,235	40.0	319.50
Accounting clerks II	1,122	40.0	313.50
Manufacturing	421	40.0	342.50
Nonmanufacturing	701	40.0	296.00
Accounting clerks III	533	39.5	386.00
Manufacturing	304	39.5	409.50
Accounting clerks IV	196	40.0	446.50
Manufacturing	85	39.5	447.50
Nonmanufacturing	111	40.0	445.50
Payroll clerks	345	40.0	358.50
Manufacturing	168	40.0	378.50
Nonmanufacturing	177	39.5	341.00
File clerks	332	39.0	245.00
Manufacturing	68	40.0	250.00
Nonmanufacturing	264	38.5	244.00
File clerks I	104	40.0	221.50
Manufacturing	51	40.0	233.00
Order clerks:			
Manufacturing	125	40.0	329.00
Order clerks I:			
Manufacturing	70	40.0	299.00
Order clerks II	137	40.0	376.50
Manufacturing	55	40.0	387.50
Receptionists	85	39.5	296.00
Nonmanufacturing	53	39.5	302.50
Switchboard operators	124	39.5	265.50
Nonmanufacturing	92	39.5	240.00
Switchboard operator-receptionists	678	39.5	280.50
Manufacturing	236	40.0	308.50
Nonmanufacturing	442	39.0	265.50
Professional and technical occupations - men			
Computer systems analysts	1,819	40.0	822.00
Manufacturing	414	39.5	809.50
Computer systems analysts II	593	40.0	753.00
Computer systems analysts III	642	40.0	851.50
Manufacturing	164	39.5	822.50
Nonmanufacturing	478	40.0	862.00
Computer systems analysts IV	190	40.0	1030.00
Manufacturing	64	39.5	1041.50
Computer programmers:			
Nonmanufacturing	452	40.0	582.50
Computer programmers III	282	40.0	588.50
Nonmanufacturing	203	40.0	566.50
Computer programmers IV	173	40.0	678.50
Computer operators:			
Manufacturing	167	39.5	469.00
Computer operators III:			
Manufacturing	80	39.5	447.00
Computer operators IV	66	40.0	537.00
Manufacturing	59	40.0	542.50
Drafters:			
Manufacturing	194	40.0	515.50
Drafters V	72	40.0	610.50
Manufacturing	60	40.0	604.50
Electronics technicians:			
Manufacturing	401	40.0	523.00
Electronics technicians I	62	40.0	408.00
Manufacturing	50	40.0	413.50
Electronics technicians II:			
Manufacturing	130	40.0	486.50
Electronics technicians III:			
Manufacturing	221	40.0	589.00
Professional and technical occupations - women			
Computer systems analysts	783	40.0	778.50
Computer systems analysts III	235	40.0	861.50
Nonmanufacturing	175	40.0	868.50
Computer programmers:			
Nonmanufacturing	269	40.0	547.00
Computer programmers III:			
Nonmanufacturing	92	40.0	564.50
Computer operators:			
Manufacturing	123	40.0	422.50

See footnotes at end of tables.

Table A-4. Hourly earnings of maintenance, toolroom, and powerplant workers in Cleveland, OH, September 1990

Occupation and industry division	Number of workers	Hourly earnings (in dollars)[1]			Number of workers receiving straight-time hourly earnings (in dollars) of —																							
		Mean[1]	Median[1]	Middle range[2]	Under 9.00	9.00 and under 9.50	9.50 – 10.00	10.00 – 10.50	10.50 – 11.00	11.00 – 11.50	11.50 – 12.00	12.00 – 12.50	12.50 – 13.00	13.00 – 13.50	13.50 – 14.00	14.00 – 14.50	14.50 – 15.00	15.00 – 15.50	15.50 – 16.00	16.00 – 16.50	16.50 – 17.00	17.00 – 17.50	17.50 – 18.00	18.00 – 18.50	18.50 – 19.00	19.00 – 20.00	20.00 and over
Maintenance carpenters	112	15.65	14.32	14.29–17.90	–	–	–	–	2	–	2	–	–	–	5	57	–	1	5	6	3	1	4	–	21	3	2
Manufacturing	78	15.83	14.40	14.32–16.67	–	–	–	–	2	–	2	–	–	–	5	33	–	1	4	4	1	–	2	–	20	3	1
Maintenance electricians	1,275	16.46	17.70	14.16–18.91	–	–	20	–	6	23	6	96	25	–	97	129	52	58	27	18	8	18	96	128	286	178	2
Manufacturing	1,155	16.36	18.32	14.14–18.91	–	–	20	–	6	23	6	91	24	–	97	125	52	58	25	18	8	15	–	123	286	178	–
Maintenance painters	61	17.50	18.61	16.34–19.06	–	–	–	–	–	–	–	–	–	1	1	11	1	–	–	2	–	3	2	6	18	16	–
Maintenance machinists	201	14.08	14.26	13.45–15.05	–	–	–	–	–	–	–	20	4	54	20	42	2	49	6	–	–	–	–	4	–	–	–
Manufacturing	199	14.08	14.26	13.45–15.05	–	–	–	–	–	–	–	20	4	54	20	42	2	49	4	–	–	–	–	4	–	–	–
Maintenance mechanics (machinery)	2,080	15.84	15.99	13.72–18.91	–	–	4	20	70	111	59	4	18	110	287	154	94	53	61	61	96	122	11	103	634	8	–
Manufacturing	1,939	15.74	15.30	13.80–18.91	–	–	4	20	70	111	59	4	18	110	285	154	92	53	54	61	84	4	11	103	634	8	–
Maintenance pipefitters	446	17.14	18.67	14.70–18.71	–	–	–	–	–	1	–	–	2	–	86	30	32	9	–	–	3	14	27	5	251	6	–
Manufacturing	445	17.14	18.67	14.70–18.71	–	–	–	–	–	1	–	–	2	–	86	30	32	9	–	–	3	14	27	5	251	6	–
Millwrights	504	18.60	18.67	18.67–19.16	–	–	–	–	–	–	–	–	1	–	11	–	9	8	–	–	6	–	–	80	139	250	–
Manufacturing	504	18.60	18.67	18.67–19.16	–	–	–	–	–	–	–	–	1	–	11	–	9	8	–	–	6	–	–	80	139	250	–
Motor vehicle mechanics	414	15.36	16.33	12.50–18.37	1	15	–	8	11	4	30	6	54	2	35	2	10	–	21	19	84	2	–	18	32	48	12
Manufacturing	192	15.77	16.31	12.50–18.67	–	2	–	2	11	2	27	–	12	2	19	2	10	–	–	8	2	–	–	18	32	43	–
Nonmanufacturing	222	15.01	16.35	12.50–16.78	1	13	–	6	–	2	3	6	42	–	16	–	–	–	21	11	82	2	–	–	–	5	12
Transportation and utilities	165	15.99	16.50	15.84–16.78	–	12	–	4	–	–	–	–	–	–	16	–	–	–	21	11	82	2	–	–	–	5	12
General maintenance workers	606	9.24	8.60	8.35–10.60	* 334	17	62	11	62	53	8	36	9	5	–	4	–	–	5	–	–	–	–	–	–	–	–
Manufacturing	443	9.58	9.00	8.50–10.85	217	10	62	5	57	45	1	33	2	2	–	4	–	–	5	–	–	–	–	–	–	–	–
Nonmanufacturing	163	8.29	7.50	8.50– 9.00	117	7	–	6	5	8	7	3	7	3	–	–	–	–	–	–	–	–	–	–	–	–	–
Machine-tool operators (toolroom)	126	17.15	18.00	14.53–18.79	–	–	–	–	–	–	1	12	2	–	–	–	20	–	–	–	1	–	–	35	38	17	–
Manufacturing	126	17.15	18.00	14.53–18.79	–	–	–	–	–	–	1	12	2	–	–	–	20	–	–	–	1	–	–	35	38	17	–
Tool and die makers	1,021	18.33	18.20	13.95–18.99	–	–	–	2	25	23	25	58	41	86	25	14	183	21	8	–	–	4	–	88	262	170	6
Manufacturing	1,021	18.33	18.20	13.95–18.99	–	–	–	2	25	23	25	58	41	86	25	14	183	21	8	–	–	4	–	88	262	170	6
Stationary engineers	152	14.81	14.24	13.71–15.72	–	–	–	–	–	2	–	15	8	9	27	33	10	5	13	1	2	2	–	1	24	–	–
Manufacturing	105	15.17	14.10	13.81–15.99	–	–	–	–	–	–	–	9	4	8	26	6	9	4	13	1	1	–	–	–	24	–	–

* Workers were distributed as follows: 60 under 7.00; 12 at 7.00 to 7.50; 62 at 7.50 to 8.00; 130 at 8.00 to 8.50; and 70 at 8.50 to 9.00.

Also see footnotes at end of tables.

Table A-5. Hourly earnings of material movement and custodial workers in Cleveland, OH, September 1990

Occupation and industry division	Number of workers	Hourly earnings (in dollars)[a]			Number of workers receiving straight-time hourly earnings (in dollars) of —																					
		Mean[a]	Median[a]	Middle range[a]	3.80 and under 4.00	4.00 – 4.50	4.50 – 5.00	5.00 – 5.50	5.50 – 6.00	6.00 – 6.50	6.50 – 7.00	7.00 – 7.50	7.50 – 8.00	8.00 – 8.50	8.50 – 9.00	9.00 – 9.50	9.50 – 10.00	10.00 – 10.50	10.50 – 11.00	11.00 – 11.50	11.50 – 12.00	12.00 – 13.00	13.00 – 14.00	14.00 – 15.00	15.00 – 16.00	16.00 – 17.00	17.00 and over
Truckdrivers	2,393	12.55	12.70	9.58–16.64	–	4	14	8	72	4	73	16	25	80	6	55	299	63	19	26	94	661	130	77	33	524	110
Manufacturing	535	11.49	12.12	9.43–12.50	–	–	–	–	–	2	20	2	23	44	4	54	4	17	10	21	52	214	18	1	9	28	12
Nonmanufacturing	1,858	12.86	12.70	9.86–16.64	–	4	14	8	72	2	53	14	2	36	2	1	295	46	9	5	42	447	112	76	24	496	98
Truckdrivers, light truck	75	7.25	6.50	5.25– 8.21	–	4	12	8	2	2	24	–	2	4	–	–	–	6	–	1	–	7	2	1	–	–	–
Truckdrivers, medium truck	1,158	11.87	9.86	9.43–16.64	–	–	–	–	70	–	49	16	23	76	5	54	295	51	–	–	36	61	–	–	–	420	2
Manufacturing	137	8.91	8.85	8.00– 9.43	–	–	–	–	–	–	–	2	23	42	3	54	–	11	–	–	–	–	–	–	–	–	2
Nonmanufacturing	1,021	12.27	11.96	9.58–16.64	–	–	–	–	70	–	49	14	–	34	2	–	295	40	–	–	36	61	–	–	–	420	–
Truckdrivers, heavy truck	625	12.54	12.70	12.50–12.70	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	21	50	541	8	–	–	3	–
Truckdrivers, tractor-trailer	421	15.04	15.87	13.48–17.19	–	–	–	–	–	–	–	–	–	–	–	1	1	–	19	4	8	40	120	–	27	93	* 108
Manufacturing	95	13.68	12.50	12.10–16.27	–	–	–	–	–	–	–	–	–	–	–	–	1	–	10	–	2	40	12	–	3	17	10
Nonmanufacturing	326	15.44	16.74	13.48–17.19	–	–	–	–	–	–	–	–	–	–	–	1	–	–	9	4	6	–	108	–	24	76	98
Receivers	135	8.41	6.50	5.50–10.70	–	12	6	8	34	6	12	2	–	5	3	5	–	2	10	–	4	2	3	–	8	13	–
Manufacturing	54	12.50	11.84	9.35–15.94	–	–	–	–	–	2	–	–	–	5	3	5	–	–	9	–	4	2	3	–	8	13	–
Nonmanufacturing	81	5.68	5.50	5.45– 6.30	–	12	6	8	34	4	12	2	–	–	–	–	–	2	1	–	–	–	–	–	–	–	–
Shippers and receivers	240	9.79	8.30	7.72–12.20	–	–	–	–	–	12	21	–	64	24	1	6	2	4	20	3	–	56	19	–	1	7	–
Manufacturing	206	9.41	8.10	7.50–12.20	–	–	–	–	–	12	21	–	64	23	–	6	2	2	3	2	–	56	14	–	1	–	–
Warehousemen	1,511	9.34	9.13	8.00–10.10	–	–	–	48	20	80	81	126	18	62	10	455	89	157	16	31	170	90	16	6	28	2	4
Manufacturing	603	9.71	9.63	7.35–11.50	–	–	–	2	2	22	61	118	2	51	2	11	52	11	4	29	150	40	16	–	28	2	–
Nonmanufacturing	908	9.09	9.13	9.13–10.10	–	–	–	46	18	58	20	10	16	11	8	444	37	146	12	2	20	50	–	6	–	–	4
Order fillers:																											
Manufacturing	181	7.76	7.75	5.70– 9.71	–	–	–	15	48	–	6	3	26	3	3	19	56	–	1	1	–	–	–	–	–	–	–
Shipping packers	153	9.00	8.70	7.10–11.02	–	–	2	4	8	2	20	9	14	3	27	3	7	12	1	30	1	–	–	–	10	–	–
Manufacturing	152	8.99	8.70	7.10–11.02	–	–	2	4	8	2	20	9	14	3	27	3	6	12	1	30	1	–	–	–	10	–	–
Material handling laborers	589	10.66	10.35	8.85–15.89	–	114	–	9	11	4	62	26	12	4	25	17	3	9	8	–	14	19	18	8	100	126	–
Manufacturing	410	12.40	14.41	8.33–16.17	–	–	–	–	–	–	62	26	11	4	25	17	2	8	8	–	10	19	11	8	73	126	–
Forklift operators	1,023	10.91	9.89	8.00–15.90	–	22	–	–	–	–	20	100	98	167	1	41	173	38	–	16	9	41	7	4	88	184	16
Manufacturing	980	11.05	9.89	8.00–15.90	–	–	–	–	–	–	20	100	96	167	–	30	173	38	–	16	9	41	2	–	88	184	16
Power-truck operators (other than forklift)	128	15.83	16.20	15.78–16.20	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	3	24	21	78	–
Guards	2,307	5.55	5.00	4.35– 5.50	78	517	416	671	131	160	36	42	18	27	23	27	18	17	14	10	3	28	40	31	–	–	–
Manufacturing	184	11.29	11.93	9.06–13.85	–	–	–	2	8	5	2	5	5	6	1	13	9	13	10	10	3	22	39	31	–	–	–
Nonmanufacturing	2,123	5.05	5.00	4.25– 5.25	78	517	416	669	123	155	34	37	13	21	22	14	9	4	4	–	–	6	1	–	–	–	–
Guards I	2,029	5.38	5.00	4.25– 5.25	78	503	383	626	93	111	22	26	14	22	17	21	13	6	3	8	2	20	30	31	–	–	–
Manufacturing	144	11.52	12.12	9.06–13.85	–	–	–	2	2	4	2	5	5	6	1	13	9	4	–	8	2	20	30	31	–	–	–
Nonmanufacturing	1,885	4.91	4.80	4.25– 5.07	78	503	383	624	91	107	20	21	9	16	16	8	4	2	3	–	–	–	–	–	–	–	–
Guards II	278	6.77	6.00	5.00– 7.40	–	14	33	45	38	49	14	18	4	5	6	6	5	11	11	2	1	8	10	–	–	–	–
Nonmanufacturing	238	6.15	5.75	5.00– 6.75	–	14	33	45	32	48	14	18	4	5	6	6	5	2	1	–	–	6	1	–	–	–	–
Janitors, porters, and cleaners	4,491	5.78	4.83	4.30– 6.00	–	1265	1133	697	144	317	56	287	59	51	17	73	92	11	48	47	3	8	46	1	117	19	–
Manufacturing	547	10.72	10.32	7.90–13.00	–	–	6	22	4	22	–	45	42	37	7	13	72	10	45	44	3	8	40	–	117	10	–
Nonmanufacturing	3,944	5.07	4.70	4.25– 5.25	–	1265	1127	675	140	295	56	242	17	14	10	60	20	1	3	3	–	–	6	1	–	9	–

* All workers were at 17.00 to 18.00.

Also see footnotes at end of tables.

Table A-6. Average hourly earnings of maintenance, toolroom, powerplant, material movement, and custodial workers, by sex, in Cleveland, OH, September 1990

Sex,[a] occupation, and industry division	Number of workers	Average (mean[b]) hourly earnings (in dollars)[c]
Maintenance, toolroom, and powerplant occupations - men		
Motor vehicle mechanics:		
Nonmanufacturing	209	14.83
Transportation and utilities	152	15.55
General maintenance workers	606	9.24
Manufacturing	443	9.59
Nonmanufacturing	163	8.29
Material movement and custodial occupations - men		
Truckdrivers	2,205	12.37
Nonmanufacturing	1,766	12.70
Truckdrivers, light truck	74	7.18
Truckdrivers, medium truck	1,107	11.73
Manufacturing	137	8.91
Nonmanufacturing	970	12.13
Truckdrivers, tractor-trailer	337	14.83
Nonmanufacturing	289	15.17
Transportation and utilities	233	15.76
Shippers and receivers	203	9.88
Manufacturing	183	9.59
Warehousemen	1,338	9.51
Manufacturing	575	9.59
Nonmanufacturing	763	9.45
Order fillers:		
Manufacturing	79	9.21
Shipping packers	88	8.85
Manufacturing	87	8.84
Guards	1,850	5.56
Manufacturing	151	11.16
Nonmanufacturing	1,699	5.06
Guards I	1,590	5.37
Manufacturing	114	11.46
Nonmanufacturing	1,476	4.90
Guards II	260	6.71
Nonmanufacturing	223	6.12
Janitors, porters, and cleaners:		
Nonmanufacturing	1,453	4.94
Material movement and custodial occupations - women		
Guards	435	5.19
Nonmanufacturing	421	4.98
Guards I	418	5.10
Nonmanufacturing	407	4.94
Janitors, porters, and cleaners	2,296	5.11
Nonmanufacturing	2,215	4.97

See footnotes at end of tables.

Table A-7. Indexes of earnings and percent increases for selected occupational groups, Cleveland, OH, selected periods

Period[a]	All industries					Manufacturing					Nonmanufacturing			
	Office clerical	Electronic data processing	Industrial nurses	Skilled maintenance	Unskilled plant	Office clerical	Electronic data processing	Industrial nurses	Skilled maintenance	Unskilled plant	Office clerical	Electronic data processing	Industrial nurses	Unskilled plant
Indexes (September 1977 = 100):														
September 1989	199.9	203.3	210.8	186.2	183.9	209.9	210.7	204.9	185.2	196.8	192.4	197.9	(*)	173.2
September 1990	209.7	209.2	217.1	197.4	189.6	218.7	218.1	208.8	197.4	205.1	202.8	202.8	(*)	(*)
Percent increases:														
September 1972 to September 1973	5.6	(*)	7.5	7.3	7.5	5.5	(*)	7.3	7.2	7.8	5.8	(*)	(*)	6.9
September 1973 to September 1974	8.8	8.7	10.4	10.2	10.1	8.5	8.4	10.7	10.5	10.6	9.1	8.6	(*)	9.5
September 1974 to September 1975	8.0	8.4	8.9	8.1	8.9	8.3	7.8	9.2	8.3	8.6	7.7	8.7	(*)	9.4
September 1975 to September 1976	7.1	6.8	8.0	6.8	6.9	7.7	7.9	8.3	6.5	7.7	6.6	5.8	(*)	6.0
September 1976 to September 1977	7.5	8.7	8.1	12.1	9.0	7.0	6.5	8.2	12.8	10.9	8.0	10.5	(*)	(*)
September 1977 to September 1978	7.6	7.5	8.2	7.5	8.3	7.8	7.1	8.0	7.5	8.5	7.3	7.9	(*)	8.4
September 1978 to September 1979	8.5	8.4	10.5	10.8	10.1	8.5	8.3	11.0	11.1	11.1	8.4	8.4	(*)	8.7
September 1979 to September 1980	10.1	10.4	12.2	11.6	12.2	12.0	11.2	12.2	11.5	13.2	8.7	9.6	(*)	11.2
September 1980 to September 1981	9.8	8.8	9.0	9.3	9.5	11.0	9.5	10.2	9.0	9.3	8.9	8.2	(*)	9.6
September 1981 to September 1982	7.5	7.9	8.1	4.4	6.4	8.3	7.9	5.9	4.4	5.8	6.9	7.9	(*)	7.1
September 1982 to September 1983	5.1	5.3	4.0	1.2	3.2	4.7	4.4	2.8	0.8	4.3	5.4	5.9	(*)	2.6
September 1983 to September 1984	4.6	4.5	3.7	4.0	2.6	5.2	5.7	4.1	4.0	3.9	4.2	3.4	(*)	1.6
September 1984 to September 1985	4.1	4.0	3.8	4.7	1.4	3.9	3.2	3.4	4.7	4.2	4.2	4.8	(*)	-1.3
September 1985 to September 1986	3.1	5.9	3.6	1.5	.4	3.7	6.6	4.3	1.4	1.3	2.7	3.9	(*)	-.4
September 1986 to September 1987	4.1	3.6	5.7	2.4	2.5	4.1	2.7	5.3	2.3	2.5	4.1	4.1	(*)	2.5
September 1987 to September 1988	3.1	2.6	3.5	4.0	3.1	2.9	3.3	2.5	4.1	3.4	3.2	2.3	(*)	2.7
September 1988 to September 1989	4.1	4.5	5.0	3.1	3.8	4.8	5.3	4.8	3.1	3.1	3.6	4.1	(*)	4.4
September 1989 to September 1990	4.9	2.9	3.0	6.0	3.1	4.2	3.5	1.9	6.6	4.2	5.4	2.5	(*)	(*)

See footnotes at end of tables.

Table A-8. Pay relationships in establishments with paired office clerical occupations, Cleveland, OH, September 1990

Occupation for which earnings are compared	Occupation for which average earnings equal 100																					
	Secretaries					Typists		Word processors		Key entry operators		Accounting clerks				Payroll clerks	File clerks		Order clerks	Receptionists	Switchboard operators	Switchboard operator-receptionists
	I	II	III	IV	V	I	II	I	II	I	II	I	II	III	IV		I	II	II			
Secretaries I	**100**	(*)	85	77	69	(*)	(*)	(*)	94	(*)	105	(*)	116	96	(*)	97	(*)	(*)	(*)	112	123	(*)
Secretaries II	(*)	**100**	85	71	62	(*)	(*)	(*)	(*)	(*)	99	122	107	89	77	83	(*)	(*)	(*)	117	112	120
Secretaries III	118	117	**100**	85	73	143	138	124	110	138	122	136	126	115	101	106	148	(*)	97	118	122	148
Secretaries IV	129	140	118	**100**	85	151	138	156	125	162	131	144	148	130	113	124	185	168	112	143	147	171
Secretaries V	145	160	136	117	**100**	190	(*)	185	144	201	161	199	174	148	132	133	(*)	226	(*)	168	171	190
Typists I	(*)	(*)	70	66	53	**100**	(*)	(*)	89	99	84	(*)	96	85	(*)	95	(*)	(*)	(*)	(*)	92	(*)
Typists II	(*)	(*)	73	72	(*)	(*)	**100**	(*)	(*)	(*)	85	(*)	101	93	77	(*)	(*)	(*)	(*)	(*)	95	(*)
Word processors I	(*)	(*)	81	64	54	(*)	(*)	**100**	82	(*)	92	(*)	101	81	71	81	(*)	(*)	(*)	104	105	(*)
Word processors II	106	(*)	91	80	69	113	(*)	122	**100**	115	116	(*)	112	101	93	99	142	(*)	(*)	113	108	122
Key entry operators I	(*)	(*)	72	62	50	101	(*)	(*)	87	**100**	86	98	87	82	69	75	126	(*)	(*)	103	97	97
Key entry operators II	95	101	82	77	62	119	117	109	86	116	**100**	(*)	106	92	79	82	(*)	128	102	107	111	119
Accounting clerks I	(*)	82	74	69	50	(*)	(*)	(*)	(*)	102	(*)	**100**	90	86	67	85	(*)	(*)	(*)	83	96	117
Accounting clerks II	86	94	79	67	57	105	99	99	89	115	94	112	**100**	88	80	86	129	114	91	106	116	110
Accounting clerks III	104	112	87	77	66	118	107	123	99	123	108	116	113	**100**	88	100	142	130	98	119	113	124
Accounting clerks IV	(*)	129	99	89	76	(*)	131	141	108	146	126	150	125	113	**100**	100	(*)	166	119	135	149	121
Payroll clerks	103	121	95	81	75	106	(*)	124	101	134	121	117	116	100	100	**100**	152	132	107	131	135	126
File clerks I	(*)	(*)	67	54	(*)	(*)	(*)	(*)	71	78	(*)	(*)	77	70	(*)	66	**100**	(*)	(*)	83	81	68
File clerks II	(*)	(*)	(*)	59	44	(*)	(*)	(*)	(*)	(*)	78	(*)	88	77	60	75	(*)	**100**	(*)	87	80	(*)
Order clerks II	(*)	(*)	103	89	(*)	(*)	(*)	(*)	(*)	(*)	96	(*)	110	102	84	94	(*)	(*)	**100**	(*)	(*)	117
Receptionists	89	85	85	70	53	(*)	(*)	96	89	97	93	121	94	84	74	77	120	114	(*)	**100**	109	(*)
Switchboard operators	81	90	82	68	58	108	105	95	93	103	90	104	86	89	67	74	123	125	(*)	92	**100**	(*)
Switchboard operator-receptionists	(*)	83	67	59	53	(*)	(*)	(*)	82	103	84	85	91	80	83	79	147	(*)	85	(*)	(*)	**100**

NOTE: This matrix table shows the average (mean) relationship of earnings in establishments between any two occupations compared. Earnings for an occupation in the table stub are expressed as a percent of the earnings for an occupation in the column heading at the point where the data lines for the two intersect. For example, reading across the Secretaries III row, the 118 in the Secretaries I column indicates that Secretaries III average 118 percent of (or 18 percent more than) the earnings of Secretaries I.

See appendix A for method of computation.

Also see footnotes at end of tables.

Table A-9. Pay relationships in establishments with paired professional and technical occupations, Cleveland, OH, September 1990

Occupation for which earnings are compared	Occupation for which average earnings equal 100																		
	Computer systems analysts			Computer programmers				Computer operators				Drafters			Electronics technicians			Registered industrial nurses
	II	III	IV	I	II	III	IV	I	II	III	IV	III	IV	V	I	II	III	
Computer systems analysts II	**100**	87	73	(*)	159	131	(*)	208	175	159	143	(*)	118	113	149	144	132	127
Computer systems analysts III	115	**100**	83	(*)	181	148	(*)	266	212	193	170	(*)	155	130	173	152	129	143
Computer systems analysts IV	136	121	**100**	(*)	217	183	(*)	(*)	235	218	198	(*)	176	161	(*)	186	165	173
Computer programmers I	(*)	(*)	(*)	**100**	88	75	68	135	119	100	97	(*)	(*)	(*)	(*)	(*)	(*)	84
Computer programmers II	63	55	46	114	**100**	84	73	157	136	120	119	(*)	118	(*)	(*)	119	(*)	(*)
Computer programmers III	76	68	55	133	119	**100**	87	192	157	140	138	(*)	140	(*)	(*)	136	116	125
Computer programmers IV	(*)	(*)	(*)	147	137	115	**100**	216	191	168	156	(*)	(*)	(*)	(*)	(*)	(*)	(*)
Computer operators I	48	38	(*)	74	64	52	46	**100**	86	75	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
Computer operators II	57	47	43	84	74	64	52	116	**100**	88	74	(*)	(*)	(*)	78	75	(*)	(*)
Computer operators III	63	52	46	100	84	71	59	134	114	**100**	85	83	80	(*)	(*)	88	(*)	85
Computer operators IV	70	59	51	103	84	72	64	(*)	134	117	**100**	(*)	85	73	(*)	88	73	89
Drafters III	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	121	(*)	**100**	86	73	(*)	(*)	(*)	(*)
Drafters IV	84	65	57	(*)	85	72	(*)	(*)	(*)	125	118	116	**100**	85	(*)	98	(*)	(*)
Drafters V	86	77	62	(*)	(*)	(*)	(*)	(*)	(*)	(*)	136	137	118	**100**	(*)	118	101	(*)
Electronics technicians I	67	58	(*)	(*)	(*)	(*)	(*)	(*)	129	(*)	(*)	(*)	(*)	(*)	**100**	81	70	(*)
Electronics technicians II	69	86	54	(*)	84	73	(*)	(*)	133	113	114	(*)	102	85	124	**100**	84	98
Electronics technicians III	76	77	61	(*)	(*)	86	(*)	(*)	(*)	(*)	136	(*)	(*)	99	144	118	**100**	(*)
Registered industrial nurses	79	70	58	118	(*)	80	(*)	(*)	(*)	118	112	(*)	(*)	(*)	(*)	102	(*)	**100**

See table A-8 for description of these pay relationships and appendix A for method of computation.

Also see footnotes at end of tables.

Table A-10. Pay relationships in establishments with paired maintenance, toolroom, and powerplant occupations, Cleveland, OH, September 1990

Occupation for which earnings are compared	Occupation for which average earnings equal 100											
	Carpenters	Electricians	Painters	Machinists	Maintenance mechanics (machinery)	Pipefitters	Millwrights	Motor vehicle mechanics	Maintenance workers (general)	Machine-tool operators (toolroom)	Tool and die makers	Stationary engineers
Maintenance carpenters	**100**	97	101	(*)	96	99	98	101	134	99	(*)	101
Maintenance electricians	103	**100**	101	102	100	102	100	103	136	101	100	104
Maintenance painters	99	99	**100**	(*)	99	101	100	99	(*)	100	99	100
Maintenance machinists	(*)	98	(*)	**100**	95	(*)	(*)	(*)	(*)	(*)	95	102
Maintenance mechanics (machinery)	104	100	101	105	**100**	102	100	103	124	101	99	105
Maintenance pipefitters	101	98	99	(*)	98	**100**	99	100	(*)	99	96	101
Millwrights	102	100	100	(*)	100	101	**100**	100	(*)	101	100	(*)
Motor vehicle mechanics	99	97	101	(*)	97	100	100	**100**	136	101	99	97
General maintenance workers	75	74	(*)	(*)	81	(*)	(*)	73	**100**	(*)	(*)	(*)
Machine-tool operators (toolroom)	101	99	100	(*)	99	101	99	99	(*)	**100**	99	100
Tool and die makers	(*)	100	101	106	101	102	100	101	(*)	101	**100**	102
Stationary engineers	99	96	100	98	95	99	(*)	103	(*)	100	98	**100**

See table A-8 for description of these pay relationships and appendix A for method of computation.
Also see footnotes at end of tables.

Table A-11. Pay relationships in establishments with paired material movement and custodial occupations, Cleveland, OH, September 1990

Occupation for which earnings are compared	Occupation for which average earnings equal 100													
	Truckdrivers				Receivers	Shippers and receivers	Warehouse-men	Shipping packers	Material handling laborers	Forklift operators	Power-truck operators (other than forklift)	Guards		Janitors, porters, and cleaners
	Light truck	Medium truck	Heavy truck	Tractor-trailer								I	II	
Truckdrivers, light truck	**100**	(*)	(*)	88	(*)	(*)	104	(*)	97	(*)	(*)	(*)	(*)	139
Truckdrivers, medium truck	(*)	**100**	(*)	(*)	(*)	98	96	112	117	107	(*)	(*)	(*)	(*)
Truckdrivers, heavy truck	(*)	(*)	**100**	(*)	(*)	(*)	(*)	(*)	121	(*)	(*)	147	(*)	125
Truckdrivers, tractor-trailer	114	(*)	(*)	**100**	107	(*)	112	(*)	105	103	107	120	(*)	115
Receivers	(*)	(*)	(*)	93	**100**	(*)	(*)	(*)	102	100	(*)	118	(*)	107
Shippers and receivers	(*)	102	(*)	(*)	(*)	**100**	96	117	113	(*)	(*)	126	(*)	148
Warehousemen	96	104	(*)	89	(*)	105	**100**	111	(*)	105	(*)	128	(*)	109
Shipping packers	(*)	89	(*)	(*)	(*)	85	90	**100**	99	(*)	(*)	(*)	(*)	109
Material handling laborers	103	85	83	95	98	88	(*)	101	**100**	98	(*)	114	123	112
Forklift operators	(*)	94	(*)	97	100	(*)	95	(*)	102	**100**	101	114	(*)	112
Power-truck operators (other than forklift)	(*)	(*)	(*)	93	(*)	(*)	(*)	(*)	(*)	99	**100**	(*)	(*)	104
Guards I	(*)	(*)	88	83	85	79	78	(*)	88	87	(*)	**100**	84	98
Guards II	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	81	(*)	(*)	119	**100**	102
Janitors, porters, and cleaners	72	(*)	80	87	94	88	91	91	89	89	96	102	98	**100**

See table A-8 for description of these pay relationships and appendix A for method of computation.
Also see footnotes at end of tables.

Table A-12. Weekly earnings of office workers in establishments employing 500 workers or more in Cleveland, OH, September 1990

Occupation and industry division	Number of workers	Average weekly hours[1] (standard)	Weekly earnings (in dollars)[2]			Number of workers receiving straight-time weekly earnings (in dollars) of —																				
			Mean[3]	Median[3]	Middle range[3]	Under 200	200 and under 220	220 – 240	240 – 260	260 – 280	280 – 300	300 – 320	320 – 340	340 – 360	360 – 380	380 – 400	400 – 420	420 – 440	440 – 460	460 – 480	480 – 500	500 – 540	540 – 580	580 – 620	620 – 700	700 and over
Secretarial and keyboarding occupations																										
Secretaries	1,575	40.0	453.00	438.50	381.00– 513.50	–	–	2	2	–	19	50	96	90	119	125	137	150	108	136	96	142	133	88	63	19
Manufacturing	872	39.5	478.00	471.00	412.00– 534.50	–	–	–	–	–	1	10	22	23	48	71	79	89	64	97	75	113	82	56	52	10
Nonmanufacturing	703	40.0	422.50	406.50	351.50– 469.00	–	–	2	2	–	18	40	76	67	71	54	58	81	42	39	21	29	51	32	11	9
Secretaries I	100	39.5	440.00	435.00	367.50– 526.00	–	–	2	2	–	–	4	4	8	7	11	10	3	5	10	4	6	21	2	1	–
Manufacturing	60	39.5	422.50	388.50	367.00– 465.00	–	–	–	–	–	–	2	4	8	7	11	8	2	2	2	2	1	8	2	1	–
Secretaries II	191	40.0	366.00	360.00	324.50– 402.00	–	–	–	–	–	15	28	37	15	21	28	17	13	10	4	4	1	–	–	–	–
Manufacturing	103	40.0	392.50	393.50	363.50– 425.00	–	–	–	–	–	1	7	8	7	15	21	16	11	10	3	3	1	–	–	–	–
Nonmanufacturing	88	40.0	335.50	326.50	313.00– 352.00	–	–	–	–	–	14	19	29	8	6	7	1	2	–	1	1	–	–	–	–	–
Secretaries III	675	40.0	434.00	431.00	378.00– 478.00	–	–	–	–	–	4	18	49	35	67	54	69	81	53	83	52	83	19	14	13	1
Manufacturing	407	39.5	467.00	469.50	417.50– 500.50	–	–	–	–	–	–	1	8	5	20	27	41	41	39	72	48	59	18	14	13	1
Nonmanufacturing	268	40.0	384.50	378.00	345.00– 423.00	–	–	–	–	–	4	17	41	30	47	27	28	40	14	11	4	4	1	–	–	–
Secretaries IV	483	40.0	489.00	481.00	417.00– 556.50	–	–	–	–	–	–	2	8	32	21	29	26	44	32	32	31	60	57	43	41	5
Manufacturing	219	39.5	526.00	528.00	481.00– 588.50	–	–	–	–	–	–	–	2	3	6	10	9	10	11	15	19	41	33	21	36	3
Nonmanufacturing	244	40.0	456.00	439.50	388.50– 518.00	–	–	–	–	–	–	2	6	29	15	19	17	34	21	17	12	19	24	22	5	2
Secretaries V	146	40.0	549.00	553.00	461.00– 595.00	–	–	–	–	–	–	–	–	–	3	3	15	9	6	7	5	12	36	29	8	13
Manufacturing	83	40.0	549.50	558.50	494.00– 591.50	–	–	–	–	–	–	–	–	–	–	2	5	5	2	5	3	11	23	19	2	6
Nonmanufacturing	63	39.5	548.50	551.50	430.00– 606.00	–	–	–	–	–	–	–	–	–	3	1	10	4	4	2	2	1	13	10	6	* 7
Typists	361	40.0	393.00	467.00	307.00– 479.00	–	–	12	26	21	25	19	29	30	8	7	–	–	–	106	76	2	–	–	–	–
Nonmanufacturing	319	40.0	401.00	467.00	301.00– 479.00	–	–	12	26	20	20	9	21	17	5	5	–	–	–	106	76	2	–	–	–	–
Typists I	102	40.0	379.50	352.00	300.00– 467.00	–	–	2	9	5	8	10	8	11	2	–	–	–	–	47	–	–	–	–	–	–
Typists II	259	40.0	398.00	479.00	313.50– 484.50	–	–	10	17	16	17	9	21	19	6	7	–	–	–	59	76	2	–	–	–	–
Nonmanufacturing	244	40.0	402.00	479.00	305.50– 484.50	–	–	10	17	16	15	6	19	15	4	5	–	–	–	59	76	2	–	–	–	–
Word processors	120	39.5	371.50	373.00	300.00– 434.00	–	–	–	5	14	10	7	10	9	11	8	11	7	5	10	11	1	1	–	–	–
Nonmanufacturing	95	39.5	365.50	355.00	286.00– 427.50	–	–	–	5	13	10	6	8	7	8	3	9	3	3	9	9	1	1	–	–	–
Word processors II	77	40.0	396.00	403.00	329.50– 479.00	–	–	–	1	9	4	2	4	4	8	6	7	4	5	10	11	1	1	–	–	–
Nonmanufacturing	62	40.0	393.00	395.50	321.00– 479.00	–	–	–	1	8	4	1	4	4	7	3	5	2	3	9	9	1	1	–	–	–
Key entry operators	258	39.5	333.00	329.00	269.50– 372.50	–	9	15	25	28	25	15	32	29	23	16	2	8	5	10	4	5	7	–	–	–
Manufacturing	93	39.5	341.50	339.50	302.50– 382.50	–	–	–	4	7	12	8	16	21	9	6	–	4	2	–	2	2	–	–	–	–
Nonmanufacturing	165	40.0	328.50	304.00	254.50– 376.00	–	9	15	21	21	13	7	16	8	14	10	2	4	3	10	2	3	7	–	–	–
Transportation and utilities	51	40.0	429.00	438.50	344.50– 476.00	–	–	–	–	–	–	1	10	4	3	4	1	3	3	10	2	3	7	–	–	–
Key entry operators I	111	39.5	294.50	270.00	242.00– 330.00	–	9	15	21	19	10	3	9	3	4	6	1	–	3	8	–	–	–	–	–	–
Nonmanufacturing	101	40.0	290.50	264.00	240.00– 320.00	–	9	15	21	19	6	3	7	3	4	2	1	–	3	8	–	–	–	–	–	–
Key entry operators II	147	39.5	362.50	348.50	309.50– 384.00	–	–	–	4	9	15	12	23	26	19	10	1	8	2	2	4	5	7	–	–	–
Manufacturing	83	39.5	342.00	340.50	305.00– 361.50	–	–	–	4	7	8	8	14	21	9	2	–	4	2	–	2	2	3	7	–	–	–
Nonmanufacturing	64	40.0	388.50	372.00	326.50– 437.50	–	–	–	–	2	7	4	9	5	10	8	1	4	–	2	2	3	7	–	–	–
Other clerical occupations																										
Accounting clerks	967	39.5	403.50	398.00	332.50– 467.00	–	2	7	17	38	33	68	77	82	63	64	67	62	40	130	102	32	13	8	24	–
Manufacturing	404	39.5	400.00	395.00	351.00– 444.50	–	–	–	–	5	6	23	40	42	57	41	43	44	30	26	18	18	9	2	–	–
Nonmanufacturing	563	40.0	406.00	401.00	317.00– 479.00	–	2	7	17	33	27	63	37	40	26	23	24	18	10	104	84	14	4	6	24	–

See footnotes at end of tables.

Table A-12. Weekly earnings of office workers in establishments employing 500 workers or more in Cleveland, OH, September 1990 —Continued

Occupation and industry division	Number of workers	Average weekly hours[1] (standard)	Weekly earnings (in dollars)[2]			Number of workers receiving straight-time weekly earnings (in dollars) of —																			
			Mean[3]	Median[3]	Middle range[3]	Under 200	200 and under 220	220 – 240	240 – 260	260 – 280	280 – 300	300 – 320	320 – 340	340 – 360	360 – 380	380 – 400	400 – 420	420 – 440	440 – 460	460 – 480	480 – 500	500 – 540	540 – 580	580 – 620	620 – 700	700 and over
Accounting clerks II	273	39.5	356.50	340.00	306.00– 404.00	–	2	5	6	20	23	48	29	21	30	17	11	21	6	27	1	5	1	–	–	–
Manufacturing	113	39.5	366.00	368.00	326.50– 402.50	–	–	–	–	3	6	16	14	9	25	10	8	16	4	–	1	1	–	–	–	–
Nonmanufacturing	160	40.0	349.50	322.50	287.50– 413.00	–	2	5	6	17	17	32	15	12	5	7	3	5	2	27	–	4	1	–	–	–
Transportation and utilities	51	40.0	438.50	479.00	366.50– 479.00	–	–	–	–	–	–	–	1	10	2	2	3	2	1	26	–	3	1	–	–	–
Accounting clerks III	415	40.0	410.50	403.00	355.50– 486.00	–	–	–	2	5	4	19	34	51	40	39	44	30	21	17	92	11	5	1	–	–
Manufacturing	198	39.5	407.50	402.00	360.00– 448.00	–	–	–	–	–	–	4	17	28	22	25	29	19	17	14	11	6	5	1	–	–
Nonmanufacturing	217	40.0	414.00	407.00	348.00– 491.50	–	–	–	2	5	4	15	17	23	18	14	15	11	4	3	81	5	–	–	–	–
Accounting clerks IV	137	39.5	480.00	481.50	390.50– 544.00	–	–	–	–	2	–	6	6	8	8	7	12	11	6	10	7	16	7	7	24	–
Manufacturing	72	39.5	436.00	438.50	381.00– 493.50	–	–	–	–	2	–	1	4	5	5	5	6	9	4	9	6	11	4	1	–	–
Payroll clerks	119	39.5	394.00	386.00	316.00– 465.00	–	1	1	3	9	5	14	11	12	13	4	3	5	6	5	8	7	6	–	4	2
Manufacturing	71	39.5	393.50	367.00	325.00– 452.50	–	–	–	–	–	4	10	11	7	9	4	3	3	3	5	1	6	3	–	2	–
File clerks	108	40.0	265.00	230.50	199.50– 296.50	* * 32	13	13	11	8	6	4	2	4	3	1	1	–	–	5	–	1	4	–	–	–
Nonmanufacturing	88	40.0	259.00	221.50	190.50– 277.00	32	12	9	8	6	3	3	1	1	2	1	1	–	–	5	–	–	4	–	–	–
Receptionists	50	39.5	304.50	287.50	265.50– 372.00	–	8	–	3	10	9	2	2	1	9	1	2	2	–	1	–	–	–	–	–	–
Switchboard operators	95	39.5	294.50	276.00	231.00– 346.00	6	14	8	9	14	4	9	4	7	4	4	5	1	1	3	–	2	–	–	–	–
Nonmanufacturing	67	39.5	273.50	250.50	206.00– 302.50	6	14	8	8	10	3	4	–	2	3	2	3	–	1	3	–	–	–	–	–	–
Switchboard operator-receptionists	82	40.0	281.00	269.00	249.50– 310.00	–	–	8	32	11	5	9	7	6	1	2	–	–	1	–	–	–	–	–	–	–
Nonmanufacturing	55	40.0	257.00	254.50	246.50– 269.00	–	–	8	32	7	2	5	1	–	–	–	–	–	–	–	–	–	–	–	–	–

* Workers were distributed as follows: 2 at 700 to 780; 3 at 780 to 860; 1 at 860 to 940; and 1 at 1020 to 1100.

* * All workers were at 180 to 200.

Also see footnotes at end of tables.

Table A-13. Weekly earnings of professional and technical workers in establishments employing 500 workers or more in Cleveland, OH, September 1990

Occupation and industry division	Number of workers	Average weekly hours[1] (standard)	Weekly earnings (in dollars)[2]			Number of workers receiving straight-time weekly earnings (in dollars) of —																			
			Mean[2]	Median[2]	Middle range[2]	Under 320	320 and under 360	360 – 400	400 – 440	440 – 480	480 – 520	520 – 560	560 – 600	600 – 640	640 – 680	680 – 720	720 – 760	760 – 800	800 – 840	840 – 880	880 – 920	920 – 960	960 – 1040	1040 – 1120	1120 – 1200	1200 and over
Computer systems analysts	943	40.0	817.00	808.00	720.00– 902.00	–	–	–	–	1	1	12	29	34	68	89	127	89	105	105	90	50	77	42	18	6
Manufacturing	490	39.5	827.00	820.50	715.50– 923.50	–	–	–	–	1	1	12	22	15	27	50	61	34	45	50	47	21	55	32	14	3
Nonmanufacturing	453	40.0	806.00	799.50	723.00– 877.50	–	–	–	–	–	–	–	7	19	41	39	66	55	60	55	43	29	22	10	4	3
Computer systems analysts II	370	40.0	725.50	721.00	662.00– 773.00	–	–	–	–	–	–	5	21	25	60	70	84	33	28	23	15	4	2	–	–	–
Manufacturing	191	39.5	748.50	738.50	684.50– 825.00	–	–	–	–	–	–	5	15	8	19	34	36	15	21	20	14	4	2	–	–	–
Nonmanufacturing	179	40.0	703.50	696.00	653.00– 746.00	–	–	–	–	–	–	–	6	19	41	36	48	18	7	3	1	–	–	–	–	–
Computer systems analysts III	425	40.0	855.50	850.50	791.00– 914.00	–	–	–	–	–	–	–	1	2	7	15	40	56	72	76	59	38	45	14	2	–
Manufacturing	188	39.5	858.00	852.50	777.00– 939.50	–	–	–	–	–	–	–	–	2	7	12	22	19	20	28	23	15	29	9	2	–
Nonmanufacturing	237	40.0	854.00	850.50	800.00– 901.00	–	–	–	–	–	–	–	1	–	–	3	18	37	52	48	36	21	16	5	–	–
Computer systems analysts IV	107	39.5	1010.50	1008.50	915.00–1081.00	–	–	–	–	–	–	–	–	–	–	–	–	–	5	6	16	10	27	26	14	3
Manufacturing	77	39.5	1031.50	1037.50	961.50–1102.00	–	–	–	–	–	–	–	–	–	–	–	–	–	4	2	10	2	22	22	12	3
Computer programmers	614	40.0	648.50	624.00	567.50– 724.00	–	–	1	–	31	32	72	101	98	84	57	48	43	39	15	4	4	5	2	–	–
Manufacturing	311	39.5	674.00	648.00	584.50– 761.00	–	–	–	–	7	11	28	47	54	32	27	26	28	27	10	3	4	5	2	–	–
Nonmanufacturing	303	40.0	622.00	606.00	549.00– 692.50	–	–	1	–	24	21	44	54	42	32	30	22	15	12	5	1	–	–	–	–	–
Computer programmers II	152	40.0	563.50	562.00	528.50– 593.50	–	–	1	–	5	24	43	42	23	11	3	–	–	–	–	–	–	–	–	–	–
Manufacturing	95	39.5	578.00	568.50	545.00– 612.50	–	–	–	–	–	10	22	33	19	9	2	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	57	40.0	539.00	531.00	509.00– 571.00	–	–	1	–	5	14	21	9	4	2	1	–	–	–	–	–	–	–	–	–	–
Computer programmers III	236	40.0	639.00	619.50	588.50– 687.00	–	–	–	–	3	2	25	53	60	30	23	17	17	5	1	–	–	–	–	–	–
Manufacturing	115	39.5	675.00	664.50	611.50– 731.50	–	–	–	–	–	–	4	9	34	18	17	13	14	5	1	–	–	–	–	–	–
Nonmanufacturing	121	40.0	604.50	593.00	570.50– 631.50	–	–	–	–	3	2	21	44	26	12	6	4	3	–	–	–	–	–	–	–	–
Computer programmers IV	150	40.0	753.50	739.50	687.50– 810.00	–	–	–	–	–	–	–	1	11	23	22	25	19	30	11	3	–	3	2	–	–
Manufacturing	72	39.5	794.00	793.00	728.00– 826.50	–	–	–	–	–	–	–	–	–	5	8	12	13	20	7	2	–	3	2	–	–
Computer operators	431	40.0	446.00	449.00	381.00– 496.00	38	35	77	50	70	90	29	25	5	4	6	–	–	1	1	–	–	–	–	–	–
Manufacturing	202	40.0	467.50	461.00	394.00– 522.50	6	16	34	28	39	26	20	19	5	1	6	–	–	1	1	–	–	–	–	–	–
Nonmanufacturing	229	40.0	427.00	437.00	365.00– 496.00	* 32	19	43	22	31	64	9	6	–	3	–	–	–	–	–	–	–	–	–	–	–
Computer operators II	160	40.0	425.00	418.50	367.50– 496.00	15	18	40	18	10	54	2	–	–	3	–	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	127	40.0	433.00	444.00	367.00– 496.00	12	15	25	11	6	53	2	–	–	3	–	–	–	–	–	–	–	–	–	–	–
Computer operators III	137	40.0	459.50	456.00	407.00– 500.00	2	10	21	18	41	20	10	10	2	–	3	–	–	–	–	–	–	–	–	–	–
Manufacturing	91	40.0	454.50	450.00	389.50– 501.00	2	10	14	15	20	14	7	4	2	–	3	–	–	–	–	–	–	–	–	–	–
Computer operators IV	87	40.0	516.00	511.50	464.50– 584.50	–	3	5	7	15	16	17	15	3	1	3	–	–	1	1	–	–	–	–	–	–
Manufacturing	74	40.0	519.00	517.50	460.00– 566.50	–	3	5	6	12	11	13	15	3	1	3	–	–	1	1	–	–	–	–	–	–
Drafters	168	40.0	499.00	511.00	425.50– 521.50	1	11	16	20	12	66	5	9	12	11	4	1	–	–	–	–	–	–	–	–	–
Manufacturing	56	40.0	570.50	590.50	498.50– 643.00	–	2	1	1	6	9	3	7	12	10	4	1	–	–	–	–	–	–	–	–	–
Drafters IV	91	40.0	513.50	511.00	496.00– 511.00	–	–	1	9	7	59	3	5	2	3	1	1	–	–	–	–	–	–	–	–	–
Electronics technicians	694	40.0	592.50	633.00	509.50– 683.50	2	17	37	43	31	53	54	75	41	30	307	2	–	2	–	–	–	–	–	–	–
Manufacturing	387	40.0	518.00	530.00	438.50– 588.00	2	17	37	43	31	53	54	73	40	30	5	2	–	–	–	–	–	–	–	–	–
Electronics technicians II	104	40.0	487.50	485.50	431.50– 548.00	–	–	11	20	15	24	13	18	4	1	–	–	–	–	–	–	–	–	–	–	–
Manufacturing	104	40.0	487.50	485.50	431.50– 548.00	–	–	11	20	15	24	13	18	4	1	–	–	–	–	–	–	–	–	–	–	–
Electronics technicians III	525	40.0	636.50	683.50	588.00– 683.50	–	–	5	11	13	26	37	56	37	29	307	2	–	2	–	–	–	–	–	–	–
Manufacturing	218	40.0	567.00	576.00	520.00– 627.00	–	–	5	11	13	26	37	54	36	29	5	2	–	–	–	–	–	–	–	–	–

* Workers were distributed as follows: 6 at 240 to 280; and 26 at 280 to 320.

Also see footnotes at end of tables.

Table A-14. Average weekly earnings of office, professional, and technical workers, by sex in establishments employing 500 workers or more in Cleveland, OH, September 1990

Sex,[4] occupation, and industry division	Number of workers	Average (mean[2])	
		Weekly hours[3] (standard)	Weekly earnings (in dollars)[2]
Office occupations - women			
Secretaries	1,547	40.0	451.50
Manufacturing	870	39.5	477.50
Nonmanufacturing	677	40.0	418.00
Secretaries I	99	39.5	439.00
Manufacturing	59	39.5	420.00
Secretaries II	189	40.0	365.00
Manufacturing	103	40.0	392.50
Secretaries III	673	40.0	434.50
Manufacturing	407	39.5	467.00
Nonmanufacturing	266	40.0	384.00
Secretaries IV	441	40.0	485.50
Manufacturing	219	39.5	526.00
Nonmanufacturing	222	40.0	445.50
Secretaries V	145	40.0	547.00
Manufacturing	82	40.0	546.50
Nonmanufacturing	63	39.5	548.50
Word processors	104	39.0	354.50
Key entry operators	245	39.5	330.00
Manufacturing	93	39.5	341.50
Nonmanufacturing	152	40.0	323.00
Transportation and utilities	45	40.0	420.00
Key entry operators I	103	39.5	288.00
Nonmanufacturing	93	40.0	283.50
Key entry operators II	142	39.5	360.50
Manufacturing	83	39.5	342.00
Nonmanufacturing	59	40.0	386.00
Accounting clerks:			
Manufacturing	371	39.5	398.00
Accounting clerks II	232	39.5	340.50
Manufacturing	111	39.5	366.50
Accounting clerks III:			
Manufacturing	177	39.5	408.50
Accounting clerks IV	114	39.5	464.50
Manufacturing	62	39.5	427.00
Nonmanufacturing	52	40.0	509.50
Payroll clerks	97	39.5	376.00
Manufacturing	60	39.5	382.50
File clerks	90	40.0	249.00
Nonmanufacturing	72	40.0	238.50
Receptionists	50	39.5	304.50
Switchboard operators	87	39.5	288.00
Nonmanufacturing	59	39.5	261.00
Switchboard operator-receptionists	82	40.0	281.00
Nonmanufacturing	55	40.0	257.00
Professional and technical occupations - men			
Computer systems analysts	589	40.0	829.00
Manufacturing	291	39.5	838.50
Nonmanufacturing	298	40.0	819.50
Computer systems analysts II	202	40.0	717.50
Nonmanufacturing	106	40.0	705.50
Computer systems analysts III	272	40.0	855.00
Manufacturing	114	39.5	852.00
Nonmanufacturing	158	40.0	857.00
Computer systems analysts IV	87	39.5	1021.50
Manufacturing	60	39.5	1051.00
Computer programmers:			
Nonmanufacturing	175	40.0	636.00
Computer programmers III:			
Nonmanufacturing	65	40.0	613.50
Computer operators:			
Computer operators IV	56	40.0	531.00
Drafters:			
Manufacturing	51	40.0	579.00
Electronics technicians:			
Manufacturing	352	40.0	526.00
Electronics technicians II	95	40.0	491.50
Manufacturing	95	40.0	491.50
Electronics technicians III:			
Manufacturing	209	40.0	569.00
Professional and technical occupations - women			
Computer systems analysts	301	40.0	778.00
Nonmanufacturing	155	40.0	780.50
Computer systems analysts II	141	39.5	710.50
Nonmanufacturing	73	40.0	700.50
Computer systems analysts III	131	40.0	845.00
Computer programmers:			
Nonmanufacturing	126	40.0	605.50
Computer programmers III:			
Nonmanufacturing	55	40.0	594.00

See footnotes at end of tables.

Table A-15. Hourly earnings of maintenance, toolroom, and powerplant workers in establishments employing 500 workers or more in Cleveland, OH, September 1990

Occupation and industry division	Number of workers	Hourly earnings (in dollars)[1]			Number of workers receiving straight-time hourly earnings (in dollars) of —																					
		Mean[2]	Median[2]	Middle range[2]	Under 10.00	10.00 and under 10.50	10.50 – 11.00	11.00 – 11.50	11.50 – 12.00	12.00 – 12.50	12.50 – 13.00	13.00 – 13.50	13.50 – 14.00	14.00 – 14.50	14.50 – 15.00	15.00 – 15.50	15.50 – 16.00	16.00 – 16.50	16.50 – 17.00	17.00 – 17.50	17.50 – 18.00	18.00 – 18.50	18.50 – 19.00	19.00 – 19.50	19.50 – 20.00	20.00 – 20.50	20.50 and over
Maintenance carpenters	108	15.71	14.32	14.29–17.92	–	–	2	–	2	–	–	–	3	55	–	1	5	6	3	1	4	–	21	1	2	–	2
Manufacturing	76	15.89	14.40	14.32–18.67	–	–	2	–	2	–	–	–	3	33	–	1	4	4	1	–	2	–	20	1	2	–	1
Maintenance electricians	981	17.56	18.32	16.09–18.91	–	–	4	1	–	6	–	–	47	58	44	58	27	18	8	18	98	128	288	178	–	–	2
Manufacturing	871	17.54	18.91	15.38–18.91	–	–	4	1	–	6	–	–	47	58	44	58	25	18	8	15	–	123	288	178	–	–	–
Maintenance painters	61	17.50	18.61	16.34–19.06	–	–	–	–	–	–	–	1	1	11	1	–	–	2	–	3	2	6	18	18	–	–	–
Maintenance machinists	115	14.78	15.05	14.26–15.05	–	–	–	–	–	–	–	12	–	42	2	49	6	–	–	–	–	4	–	–	–	–	–
Manufacturing	113	14.74	15.05	14.26–15.05	–	–	–	–	–	–	–	12	–	42	2	49	4	–	–	–	–	4	–	–	–	–	–
Maintenance mechanics (machinery)	1,425	17.25	18.20	15.67–18.91	–	–	4	2	–	2	–	45	68	81	78	53	57	61	96	122	11	103	634	8	–	–	–
Manufacturing	1,286	17.25	18.43	15.30–18.91	–	–	4	2	–	2	–	45	68	81	78	53	50	61	84	4	11	103	634	8	–	–	–
Maintenance pipefitters	395	17.55	18.67	17.23–18.71	–	–	–	1	–	–	2	–	24	25	28	9	–	–	3	14	27	5	251	6	–	–	–
Manufacturing	394	17.56	18.67	17.23–18.71	–	–	–	1	–	–	2	–	24	25	28	8	–	–	3	14	27	5	251	6	–	–	–
Millwrights	504	18.60	18.67	18.67–19.16	–	–	–	–	–	–	1	–	11	–	9	8	–	–	6	–	–	80	139	250	–	–	–
Manufacturing	504	18.60	18.67	18.67–19.16	–	–	–	–	–	–	1	–	11	–	9	8	–	–	6	–	–	80	139	250	–	–	–
Motor vehicle mechanics	266	17.07	16.78	16.31–18.67	1	–	1	–	–	2	6	2	19	2	10	–	17	19	82	–	–	18	32	43	–	–	12
Manufacturing	137	17.48	18.67	16.31–19.16	–	–	1	–	–	–	–	2	19	2	10	–	–	6	2	–	–	18	32	43	–	–	–
Nonmanufacturing	129	16.66	16.50	16.35–16.78	1	–	–	–	–	2	6	–	–	–	–	–	17	11	80	–	–	–	–	–	–	–	12
Transportation and utilities	120	17.01	16.50	16.50–16.78	–	–	–	–	–	–	–	–	–	–	–	–	17	11	80	–	–	–	–	–	–	–	* 12
General maintenance workers	80	11.38	11.46	10.65–12.50	* * 12	5	14	10	4	14	9	3	–	4	–	–	5	–	–	–	–	–	–	–	–	–	–
Manufacturing	50	11.93	11.46	10.75–12.06	1	5	12	9	1	11	2	–	–	4	–	–	5	–	–	–	–	–	–	–	–	–	–
Machine-tool operators (toolroom)	94	18.31	18.79	18.00–18.79	–	–	–	–	1	2	–	–	–	–	–	–	–	–	1	–	–	35	38	17	–	–	–
Manufacturing	94	18.31	18.79	18.00–18.79	–	–	–	–	1	2	–	–	–	–	–	–	–	–	1	–	–	35	38	17	–	–	–
Tool and die makers	584	18.32	18.99	18.20–19.00	–	–	2	–	–	4	10	10	–	12	15	–	7	–	–	4	–	88	262	170	–	–	–
Manufacturing	584	18.32	18.99	18.20–19.00	–	–	2	–	–	4	10	10	–	12	15	–	7	–	–	4	–	88	262	170	–	–	–
Stationary engineers	92	15.61	15.39	13.71–18.67	–	–	–	–	–	6	4	9	6	9	10	5	13	1	2	2	–	1	24	–	–	–	–
Manufacturing	75	15.90	15.57	14.10–18.67	–	–	–	–	–	–	4	8	5	6	9	4	13	1	1	–	–	–	24	–	–	–	–

* All workers were at 21.50 to 22.00.

* * Workers were distributed as follows: 2 at 6.00 to 6.50; 7 at 7.00 to 7.50; 2 at 8.50 to 9.00; and 1 at 9.00 to 9.50.

Also see footnotes at end of tables.

Table A-16. Hourly earnings of material movement and custodial workers in establishments employing 500 workers or more in Cleveland, OH, September 1990

Occupation and industry division	Number of workers	Hourly earnings (in dollars)[1]			Number of workers receiving straight-time hourly earnings (in dollars) of —																					
		Mean[2]	Median[3]	Middle range[4]	4.00 and under 4.50	4.50 – 5.00	5.00 – 5.50	5.50 – 6.00	6.00 – 6.50	6.50 – 7.00	7.00 – 7.50	7.50 – 8.00	8.00 – 8.50	8.50 – 9.00	9.00 – 9.50	9.50 – 10.00	10.00 – 10.50	10.50 – 11.00	11.00 – 11.50	11.50 – 12.00	12.00 – 13.00	13.00 – 14.00	14.00 – 15.00	15.00 – 16.00	16.00 – 17.00	17.00 – 18.00	18.00 – 19.00
Truckdrivers:																										
Manufacturing	138	13.44	12.46	11.63–16.27	-	-	-	-	-	-	-	-	1	1	-	4	8	-	1	32	36	7	1	9	28	10	-
Truckdrivers, tractor-trailer:																										
Manufacturing	58	14.60	15.12	12.10–16.88	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	2	20	5	-	3	17	10	-
Warehousemen	244	11.29	11.18	9.25–12.74	-	-	-	-	1	4	1	-	1	-	60	36	3	12	31	7	52	-	2	28	2	4	-
Manufacturing	84	12.29	11.30	11.18–15.32	-	-	-	-	1	4	1	-	1	-	-	6	3	-	29	7	2	-	-	28	2	-	-
Nonmanufacturing	160	10.76	9.50	9.25–12.74	-	-	-	-	-	-	-	-	-	-	60	30	-	12	2	-	50	-	2	-	-	4	-
Material handling laborers	302	14.13	15.89	12.25–16.17	-	-	7	9	2	-	-	1	-	6	15	1	9	-	-	14	19	12	8	73	126	-	-
Manufacturing	276	14.78	15.89	13.89–16.17	-	-	-	-	-	-	-	-	-	6	15	-	8	-	-	10	19	11	8	73	126	-	-
Forklift operators	340	15.59	16.16	15.90–16.33	-	-	-	-	-	-	-	-	1	-	-	-	10	-	2	-	33	2	4	88	184	-	16
Manufacturing	336	15.61	16.16	15.90–16.33	-	-	-	-	-	-	-	-	1	-	-	-	10	-	2	-	33	2	-	88	184	-	16
Power-truck operators (other than forklift)	128	15.63	16.20	15.78–16.20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	24	21	78	-	-
Guards:																										
Manufacturing	159	11.84	12.12	10.05–13.85	-	-	-	6	3	2	3	1	2	1	4	9	13	10	10	3	22	39	31	-	-	-	-
Guards I:																										
Manufacturing	119	12.32	13.85	11.42–14.38	-	-	-	-	2	2	3	1	2	1	4	9	4	-	8	2	20	30	31	-	-	-	-
Guards II	204	7.46	6.25	5.50– 9.17	-	-	35	29	41	14	16	4	5	6	6	5	11	11	2	1	8	10	-	-	-	-	-
Janitors, porters, and cleaners	2,882	5.77	4.50	4.25– 6.00	984	686	381	99	219	26	46	45	50	15	64	20	5	48	44	3	6	6	1	117	19	-	-
Manufacturing	319	12.02	11.32	8.28–15.65	-	2	1	2	-	-	6	34	37	5	5	-	4	43	44	3	6	-	-	117	10	-	-

See footnotes at end of tables.

Table A-17. Average hourly earnings of maintenance, toolroom, powerplant, material movement and custodial workers by sex in establishments employing 500 workers or more in Cleveland, OH, September 1990

Sex,[5] occupation, and industry division	Number of workers	Average (mean[2]) hourly earnings (in dollars)[1]
Maintenance, toolroom, and powerplant occupations - men		
Motor vehicle mechanics:		
Nonmanufacturing	118	16.16
Transportation and utilities	107	16.50
General maintenance workers	80	11.38
Manufacturing	50	11.93
Material movement and custodial occupations - men		
Warehousemen	217	10.97
Manufacturing	62	11.98
Guards	463	7.33
Manufacturing	126	11.84
Guards I	268	7.32

See footnotes at end of tables.

Table B-1. Minimum entrance salaries for inexperienced typists and clerks in Cleveland, OH, September 1990

Minimum weekly straight-time salary[1]	Inexperienced typists					Other inexperienced clerical workers[2]				
	All industries	Manufacturing		Nonmanufacturing		All industries	Manufacturing		Nonmanufacturing	
		All schedules	40 -hour schedules	All schedules	40 -hour schedules		All schedules	40 -hour schedules	All schedules	40 -hour schedules
Establishments studied	224	78	(*)	146	(*)	224	78	(*)	146	(*)
Establishments having a specified minimum	20	10	9	10	8	87	47	43	40	32
$155 and under $160	-	-	-	-	-	1	-	-	1	1
$160 and under $165	-	-	-	-	-	2	1	1	1	1
$165 and under $170	-	-	-	-	-	-	-	-	-	-
$170 and under $175	-	-	-	-	-	2	-	-	2	1
$175 and under $180	-	-	-	-	-	1	-	-	1	1
$180 and under $185	-	-	-	-	-	3	-	-	3	2
$185 and under $190	1	-	-	1	1	3	-	-	3	3
$190 and under $195	-	-	-	-	-	2	-	-	2	1
$195 and under $200	-	-	-	-	-	1	1	1	-	-
$200 and under $210	-	-	-	-	-	14	8	8	6	5
$210 and under $220	1	-	-	1	1	3	1	1	2	2
$220 and under $230	2	-	-	2	2	9	2	2	7	5
$230 and under $240	4	2	2	2	1	4	3	3	1	1
$240 and under $250	1	-	-	1	-	7	5	5	2	1
$250 and under $260	-	-	-	-	-	7	5	4	2	2
$260 and under $270	-	-	-	-	-	3	1	1	2	2
$270 and under $280	-	-	-	-	-	3	3	2	-	-
$280 and under $290	3	2	1	1	1	8	5	4	3	3
$290 and under $300	1	-	-	1	1	3	2	1	1	1
$300 and under $310	6	5	5	1	1	7	7	7	-	-
$310 and under $320	1	1	1	-	-	1	1	1	-	-
$320 and under $330	-	-	-	-	-	2	1	1	1	-
$330 and over	-	-	-	-	-	1	1	1	-	-
Establishments having no specified minimum	7	-	(*)	7	(*)	74	20	(*)	54	(*)
Establishments which did not employ workers in this category	195	68	(*)	129	(*)	60	9	(*)	51	(*)
Establishments for which data were not available	2	2	(*)	-	(*)	3	2	(*)	1	(*)

See footnotes at end of tables.

Table B-2. Late-shift pay provisions for full-time manufacturing production and related workers in Cleveland, OH, September 1990

(All full-time manufacturing production and related workers = 100 percent)

Item	Workers in establishments with late-shift provisions[1]		Workers on late shifts	
	Second shift	Third shift	Second shift	Third shift
Total workers (in percent)	93.4	86.6	23.9	11.9
With no pay differential for late-shift work	7.9	-	2.4	-
With pay differential for late-shift work	85.5	86.6	21.5	11.9
Uniform cents-per-hour differential	57.0	60.1	13.0	9.6
Uniform percentage differential	28.5	26.5	8.5	2.2
By type and amount of pay differential:				
Uniform cents per hour:				
10 cents	2.0	-	.4	-
15 cents	10.4	6.8	1.2	.7
19 cents	2.3	-	.4	-
20 cents	10.5	13.2	2.8	2.2
25 cents	4.8	3.2	1.0	.1
27 cents	.4	-	.1	-
28 cents	2.4	-	.4	-
30 cents	8.1	8.3	2.2	1.1
35 cents	6.9	1.8	2.2	.3
38 cents	-	9.3	-	2.0
40 cents	1.0	.1	.2	(2)
45 cents	-	7.5	-	1.8
50 cents	6.9	5.2	1.8	1.0
55 cents	-	3.1	-	.4
80 cents	.2	-	(2)	-
110 cents	.4	-	.1	-
115 cents	-	.2	-	(2)
140 cents	-	.2	-	-
143 cents	.8	.8	.2	.1
150 cents	-	.2	-	(2)
Uniform percentage:				
5 percent	25.3	2.8	7.7	.3
6 percent	.5	-	.1	-
7 percent	(2)	2.8	-	.2
9 percent	-	.5	-	-
10 percent	2.8	20.3	.7	1.7
15 percent	-	.3	-	(2)
Average pay differential (in cents or percent):				
Uniform cents-per-hour differential	29.3	34.7	30.9	35.8
Uniform percentage differential	5.5	9.2	5.4	9.1

See footnotes at end of tables.

Table B-3. Scheduled weekly hours and days of full-time first-shift workers in Cleveland, OH, September 1990

Item	Production and related workers				Office workers			
	All industries	Manufacturing	Nonmanufacturing	Transportation and utilities	All industries	Manufacturing	Nonmanufacturing	Transportation and utilities
All full-time day-shift workers (in percent)	100	100	100	100	100	100	100	100
Scheduled to work:								
20 hours—5 days	1	-	1	-	-	-	-	-
25 hours—5 days	-	-	-	-	(1)	-	(1)	-
30 hours—5 days	1	-	1	-	(1)	-	(1)	-
31 hours—5 days	1	-	2	-	-	-	-	-
32 hours	2	-	6	-	-	-	-	-
4 days	(1)	-	1	-	-	-	-	-
5 days	2	-	5	-	-	-	-	-
32.5 hours—5 days	-	-	-	-	(1)	-	(1)	-
35 hours—5 days	1	(1)	2	-	1	(1)	2	-
36 hours—5 days	(1)	-	1	-	-	-	-	-
37.25 hours—5 days	-	-	-	-	(1)	-	(1)	-
37.5 hours—5 days	3	(1)	6	4	7	8	7	-
38.66 hours—5 days	(1)	-	(1)	-	1	-	1	-
38.75 hours—5 days	-	-	-	-	1	3	1	-
40 hours—5 days	90	99	77	96	89	89	89	100
44 hours—5.5 days	(1)	-	1	-	-	-	-	-
45 hours—5 days	1	-	3	-	(1)	-	(1)	-
56 hours—6 days	(1)	-	(1)	-	-	-	-	-
Average weekly schedule (in hours)	39.5	40.0	38.9	39.9	39.7	39.8	39.7	40.0

See footnotes at end of tables.

Table B-4. Annual paid holidays for full-time workers in Cleveland, OH, September 1990

Item	Production and related workers				Office workers			
	All industries	Manufacturing	Nonmanufacturing	Transportation and utilities	All industries	Manufacturing	Nonmanufacturing	Transportation and utilities
All full-time workers (in percent)	100	100	100	100	100	100	100	100
In establishments not providing paid holidays	4	3	5	-	1	1	(1)	-
In establishments providing paid holidays	96	97	95	100	99	99	99	100
Number of holidays:								
1 half day	(1)	-	1	-	-	-	-	-
2 holidays	3	-	6	-	-	-	-	-
3 holidays	(1)	-	(1)	-	-	-	-	-
4 holidays	(1)	-	1	-	-	-	-	-
5 holidays	(1)	-	(1)	-	-	-	-	-
Plus 1 half day	(1)	-	(1)	-	-	-	-	-
6 holidays	10	5	17	5	6	(1)	10	2
Plus 1 or more half days	(1)	-	(1)	-	1	-	2	-
7 holidays	12	3	24	-	6	2	9	-
Plus 1 or more half days	(1)	-	1	2	3	-	5	1
8 holidays	13	14	13	-	8	5	10	(1)
Plus 1 or more half days	(1)	-	1	-	(1)	-	(1)	-
9 holidays	6	5	6	2	7	4	10	7
Plus 1 or more half days	2	3	1	-	2	2	2	-
10 holidays	18	22	13	61	39	26	44	72
Plus 1 half day	(1)	-	(1)	-	(1)	-	(1)	-
11 holidays	9	11	8	25	15	31	4	10
12 holidays	6	9	3	6	9	19	3	8
13 holidays	13	23	-	-	2	6	-	-
14 holidays	1	2	-	-	(1)	1	-	-
17 holidays	(1)	-	(1)	-	1	-	1	-
Total paid holiday time[2]:								
2 days or more	96	97	94	100	99	99	99	100
4 days or more	93	97	88	100	99	99	99	100
6 days or more	92	97	86	100	99	99	99	100
7 days or more	82	93	68	96	93	98	90	98
7.5 days or more	70	90	44	96	87	98	81	98
8 days or more	69	90	44	93	87	98	81	97
9 days or more	56	76	30	93	76	91	66	97
9.5 days or more	50	71	24	91	68	87	56	90
10 days or more	50	71	23	91	66	87	53	90
11 days or more	30	45	10	30	27	56	8	18
12 days or more	20	34	3	6	12	25	4	8
13 days or more	14	25	(1)	-	3	6	1	-
14 days or more	1	2	(1)	-	1	1	1	-
17 days	(1)	-	(1)	-	1	-	1	-
Average number of paid holidays where provided (in days)	9.2	10.5	7.6	10.1	9.7	10.7	9.1	10.1

See footnotes at end of tables.

Table B-5. Paid vacation provisions for full-time workers in Cleveland, OH, September 1990

Item	Production and related workers				Office workers			
	All industries	Manufacturing	Nonmanufacturing	Transportation and utilities	All industries	Manufacturing	Nonmanufacturing	Transportation and utilities
All full-time workers (in percent)	100	100	100	100	100	100	100	100
In establishments not providing paid vacations	1	-	3	-	-	-	-	-
In establishments providing paid vacations	99	100	97	100	100	100	100	100
Length-of-time payment	94	93	95	100	99	99	100	100
Percentage payment	5	7	1	-	(1)	1	-	-
By vacation pay provisions for[1]:								
6 months of service:								
Under 1 week	8	13	3	-	3	4	2	-
1 week	23	27	18	28	45	43	47	72
Over 1 and under 2 weeks	2	1	3	-	13	10	15	-
2 weeks	(1)	-	1	-	1	1	1	-
1 year of service:								
1 week	49	44	54	30	17	13	20	11
Over 1 and under 2 weeks	4	5	4	17	-	-	-	-
2 weeks	42	45	39	54	78	86	73	87
Over 2 and under 3 weeks	3	5	1	-	5	1	7	1
3 weeks	(1)	1	-	-	-	-	-	-
4 weeks	(1)	-	(1)	-	(1)	-	(1)	-
2 years of service:								
1 week	23	19	27	5	2	3	2	2
Over 1 and under 2 weeks	4	8	-	-	(1)	(1)	-	-
2 weeks	66	67	66	70	91	92	91	97
Over 2 and under 3 weeks	5	5	4	17	6	4	7	1
3 weeks	(1)	1	-	-	(1)	1	(1)	(1)
4 weeks	(1)	-	(1)	-	(1)	-	(1)	-
3 years of service:								
1 week	4	4	4	-	1	2	(1)	-
Over 1 and under 2 weeks	2	3	1	-	(1)	-	(1)	-
2 weeks	75	67	85	83	90	89	91	99
Over 2 and under 3 weeks	16	23	7	17	7	5	8	1
3 weeks	1	3	-	-	2	4	(1)	(1)
4 weeks	(1)	-	(1)	-	(1)	-	(1)	-
4 years of service:								
1 week	3	2	4	-	1	2	(1)	-
Over 1 and under 2 weeks	2	3	1	-	(1)	-	(1)	-
2 weeks	73	63	85	83	90	89	91	99
Over 2 and under 3 weeks	19	30	7	17	7	5	8	1
3 weeks	1	3	-	-	2	4	(1)	(1)
4 weeks	(1)	-	(1)	-	(1)	-	(1)	-
5 years of service:								
1 week	1	1	1	-	(1)	(1)	(1)	-
2 weeks	44	41	47	63	35	38	33	80
Over 2 and under 3 weeks	14	24	1	2	8	10	7	1
3 weeks	39	34	45	20	53	48	56	19
Over 3 and under 4 weeks	1	(1)	3	15	3	3	3	-
Over 4 and under 5 weeks	(1)	-	(1)	-	(1)	-	(1)	-

See footnotes at end of tables.

Table B-5. Paid vacation provisions for full-time workers in Cleveland, OH, September 1990 —Continued

Item	Production and related workers				Office workers			
	All industries	Manufacturing	Nonmanufacturing	Transportation and utilities	All industries	Manufacturing	Nonmanufacturing	Transportation and utilities
8 years of service:								
1 week	(1)	-	1	-	(1)	-	(1)	-
2 weeks	29	30	29	25	10	11	9	9
Over 2 and under 3 weeks	10	16	2	2	10	15	7	-
3 weeks	55	50	62	58	76	89	80	89
Over 3 and under 4 weeks	3	3	3	15	4	3	4	1
4 weeks	(1)	1	(1)	-	1	2	(1)	-
Over 4 and under 5 weeks	(1)	-	(1)	-	(1)	-	(1)	-
10 years of service:								
1 week	(1)	-	1	-	(1)	-	(1)	-
2 weeks	8	5	12	-	2	(1)	3	-
Over 2 and under 3 weeks	2	3	-	-	(1)	1	-	-
3 weeks	55	51	61	73	76	88	81	91
Over 3 and under 4 weeks	18	30	3	2	4	4	4	1
4 weeks	14	11	17	10	16	27	13	8
Over 4 and under 5 weeks	1	-	3	15	-	-	-	-
Over 5 and under 6 weeks	(1)	-	(1)	-	(1)	-	(1)	-
12 years of service:								
1 week	(1)	-	1	-	(1)	-	(1)	-
2 weeks	8	5	11	-	2	(1)	3	-
Over 2 and under 3 weeks	(1)	(1)	-	-	-	-	-	-
3 weeks	48	45	51	71	82	53	88	90
Over 3 and under 4 weeks	19	34	(1)	2	11	15	8	1
4 weeks	21	13	30	12	25	31	21	9
Over 4 and under 5 weeks	3	2	3	15	-	-	-	-
Over 5 and under 6 weeks	(1)	-	(1)	-	(1)	-	(1)	-
15 years of service:								
1 week	(1)	-	1	-	(1)	-	(1)	-
2 weeks	7	4	11	-	2	(1)	3	-
3 weeks	24	25	23	25	16	12	19	10
Over 3 and under 4 weeks	9	16	-	-	5	13	1	-
4 weeks	51	45	58	58	72	88	74	89
Over 4 and under 5 weeks	5	6	4	16	4	5	4	1
5 weeks	2	4	1	-	1	2	1	-
Over 5 and under 6 weeks	(1)	-	(1)	-	(1)	-	(1)	-
20 years of service:								
1 week	(1)	-	1	-	(1)	-	(1)	-
2 weeks	7	4	11	-	2	(1)	3	-
3 weeks	4	1	7	-	7	2	11	1
Over 3 and under 4 weeks	1	3	-	-	-	-	-	-
4 weeks	58	53	63	78	67	57	74	97
Over 4 and under 5 weeks	5	9	1	-	6	5	7	-
5 weeks	20	28	10	6	17	34	6	1
Over 5 and under 6 weeks	2	1	4	17	1	2	(1)	1
6 weeks	1	1	-	-	(1)	-	(1)	-
25 years of service:								
1 week	(1)	-	1	-	(1)	-	(1)	-
2 weeks	7	4	11	-	2	(1)	3	-
3 weeks	4	1	7	-	7	1	11	1
Over 3 and under 4 weeks	1	3	-	-	-	-	-	-
4 weeks	33	27	40	5	44	29	54	7
Over 4 and under 5 weeks	2	3	1	-	6	7	5	-
5 weeks	43	54	38	73	38	50	(1)	80
Over 5 and under 6 weeks	3	3	4	17	3	6	(1)	1
6 weeks	4	5	4	5	3	6	(1)	1

See footnotes at end of tables.

Table B-5. Paid vacation provisions for full-time workers in Cleveland, OH, September 1990 —Continued

Item	Production and related workers				Office workers			
	All industries	Manufacturing	Nonmanufacturing	Transportation and utilities	All industries	Manufacturing	Nonmanufacturing	Transportation and utilities
30 years of service:								
1 week	(1)	-	1	-	(1)	-	(1)	-
2 weeks	7	4	11	-	2	(1)	3	-
3 weeks	4	1	7	-	7	1	11	1
Over 3 and under 4 weeks	1	3	-	-	-	-	-	-
4 weeks	31	24	40	5	43	26	54	7
Over 4 and under 5 weeks	2	2	1	-	3	-	5	-
5 weeks	43	55	29	68	34	48	25	82
Over 5 and under 6 weeks	3	3	4	17	2	4	(1)	1
6 weeks	7	8	5	11	9	21	2	9
7 weeks	(1)	(1)	-	-	(1)	(1)	-	-
Maximum vacation available:								
1 week	(1)	-	1	-	(1)	-	(1)	-
2 weeks	7	4	11	-	2	(1)	3	-
3 weeks	4	1	7	-	7	1	11	1
Over 3 and under 4 weeks	1	3	-	-	-	-	-	-
4 weeks	31	24	40	5	43	26	54	7
Over 4 and under 5 weeks	2	2	1	-	3	-	5	-
5 weeks	42	52	29	68	34	47	25	82
Over 5 and under 6 weeks	3	3	4	17	2	4	(1)	1
6 weeks	9	11	5	11	10	21	2	9
7 weeks	(1)	(1)	-	-	(1)	(1)	-	-

See footnotes at end of tables.

Table B-6. Insurance, health, and retirement plans offered to full-time workers in Cleveland, OH, September 1990

Item	Production and related workers				Office workers			
	All industries	Manufacturing	Nonmanufacturing	Transportation and utilities	All industries	Manufacturing	Nonmanufacturing	Transportation and utilities
All full-time workers (in percent)	100	100	100	100	100	100	100	100
In establishments offering at least one of the benefits shown below[16]	96	96	96	100	99	100	99	100
Life insurance	89	95	82	100	97	99	96	100
Noncontributory plans	86	95	75	100	89	93	86	99
Accidental death and dismemberment insurance	69	81	54	73	84	92	79	90
Noncontributory plans	65	77	51	73	80	87	75	89
Sickness and accident insurance or sick leave or both	78	92	60	60	97	99	96	96
Sickness and accident insurance	62	90	27	38	62	66	59	55
Noncontributory plans	60	87	26	38	61	66	57	55
Sick leave (full pay and no waiting period)	23	11	39	37	81	84	79	55
Sick leave (partial pay or waiting period)	4	(17)	9	18	3	3	12	38
Long-term disability insurance	29	40	15	28	71	71	72	86
Noncontributory plans	26	38	11	28	60	48	66	86
Hospitalization, surgical, and medical insurance	93	95	89	100	97	100	94	100
Noncontributory plans	63	80	41	77	37	53	26	60
Health maintenance organizations	56	69	39	51	82	87	80	86
Noncontributory plans	30	49	5	2	15	25	9	1
Dental care	66	78	50	64	84	87	82	99
Noncontributory plans	49	67	27	56	40	48	35	83
Vision care	30	39	19	28	25	22	28	39
Noncontributory plans	27	35	18	26	12	9	14	39
Alcohol and drug abuse treatment	89	96	80	100	94	98	91	100
Noncontributory plans	62	80	40	77	38	51	26	60
Hearing care	18	26	4	1	9	3	12	(17)
Noncontributory plans	15	25	4	1	1	1	1	(17)
Retirement plans[18]	80	89	70	68	90	98	85	86
Noncontributory plans	75	84	62	68	81	87	77	86
Pension	78	87	66	68	86	93	82	86
Noncontributory plans	74	82	62	68	80	86	76	86
Lump sum	27	27	27	45	55	61	51	84
Noncontributory plans	1	2	(17)	-	1	1	1	-
Other[17]	(17)	-	(17)	2	2	-	2	1
Noncontributory plans	-	-	-	-	(17)	-	(17)	-

See footnotes at end of tables.

Table B-7. Health plan participation by full-time workers in Cleveland, OH, September 1990

Item	Production and related workers				Office workers			
	All industries	Manufacturing	Nonmanufacturing	Transportation and utilities	All industries	Manufacturing	Nonmanufacturing	Transportation and utilities
All full-time workers (in percent)	100	100	100	100	100	100	100	100
Participating in:								
Hospitalization, surgical, and medical insurance	71	74	68	79	67	74	63	82
Noncontributory plans	52	64	36	67	27	41	18	41
Health maintenance organizations	17	20	12	21	19	20	19	38
Noncontributory plans	9	15	1	(*)	4	7	1	(*)
Dental care	62	77	42	83	76	83	70	99
Noncontributory plans	49	67	27	56	38	47	32	83
Vision care	29	37	18	28	19	16	21	39
Noncontributory plans	27	35	18	26	9	8	9	39
Alcohol and drug abuse treatment	80	86	61	99	82	92	76	99
Noncontributory plans	59	60	32	77	33	50	21	60
Hearing care	18	26	4	1	6	2	9	(*)
Noncontributory plans	15	25	4	1	1	–	1	(*)

See footnotes at end of tables.

Table B-6. Other selected benefits for full-time workers in Cleveland, OH, September 1990

Item	Production and related workers				Office workers			
	All industries	Manufacturing	Nonmanufacturing	Transportation and utilities	All industries	Manufacturing	Nonmanufacturing	Transportation and utilities
All full-time workers (in percent)	100	100	100	100	100	100	100	100
In establishments providing:								
Severance pay	27	29	26	50	65	66	64	49
Supplemental unemployment benefits	17	31	(1)	-	1	3	-	-
Cost-of-living adjustments	14	25	(1)	-	3	6	1	-
Based on BLS Consumer Price Index	12	22	(1)	-	2	5	1	-
Other basis than BLS Consumer Price Index	2	3	-	-	(1)	1	-	-
Paid leave:								
Jury duty	92	95	88	100	99	99	99	100
Funeral	88	93	82	100	96	99	94	100
Military	50	55	43	56	89	79	82	59
Personal leave[2]	13	11	17	47	21	17	23	83
1 day	2	1	2	-	1	1	1	-
2 days	(1)	-	(1)	2	3	3	3	1
3 days	4	3	6	23	5	3	7	33
4 days	2	(1)	4	18	6	4	7	38
5 days	4	6	1	-	2	5	1	-
6 days	1	-	2	-	(1)	-	1	2
8 days	(1)	-	1	5	-	-	-	-
10 days	(1)	1	-	-	1	2	-	-
Variable or unspecified[3]	(1)	-	(1)	-	2	-	4	9
Average amount of paid personal leave in establishments providing uniform and specified benefits (in days)	4.0	4.3	3.7	3.9	3.6	4.2	3.3	3.6

See footnotes at end of tables.

Footnotes

Some of these standard footnotes may not apply to this bulletin.

[1] Standard hours reflect the workweek for which employees receive their regular straight-time salaries (exclusive of pay for overtime at regular and/or premium rates), and the earnings correspond to these weekly hours.

[2] Excludes premium pay for overtime and for work on weekends, holidays, and late shifts. Also excluded are performance bonuses and lump-sum payments of the type negotiated in the auto and aerospace industries, as well as profit-sharing payments, attendance bonuses, Christmas or year-end bonuses, and other nonproduction bonuses. Pay increases—but not bonuses—under cost-of-living allowance clauses, and incentive payments, however, are included.

[3] The mean is computed for each job by totaling the earnings of all workers and dividing by the number of workers. The median designates position—one-half of the workers receive the same as or more and one-half receive the same as or less than the rate shown. The middle range is defined by two rates of pay; one-fourth of the workers earn the same as or less than the lower of these rates and one-fourth earn the same as or more than the higher rate.

[4] Earnings data relate only to workers whose sex identification was provided by the establishment.

[5] Estimates for periods ending prior to 1976 relate to men only for skilled maintenance and unskilled plant workers. All other estimates relate to men and women.

[6] Data do not meet publication criteria or data not available.

[7] Formally established minimum regular straight-time hiring salaries that are paid for standard workweeks. Data are presented for all standard workweeks combined, and for the most common standard workweeks reported.

[8] Excludes workers in subclerical jobs such as messenger.

[9] Work schedules collected only for establishments reporting a formal minimum.

[10] Includes all production and related workers in establishments currently operating late shifts, and establishments whose formal provisions cover late shifts, even though the establishments were not currently operating late shifts.

[11] Less than 0.05 percent.

[12] Less than 0.5 percent.

[13] Full and half days are combined. For example, the proportion of workers receiving 10 or more days includes those receiving *at least* 10 full days, or 9 full days and 2 half days, or 8 full days and 4 half days, and so on.

[14] Payments other than "length of time" are converted to an equivalent time basis; for example, 2 percent of annual earnings was considered as 1 week's pay. Periods of service are chosen arbitrarily and do not necessarily reflect individual provisions for progression; for example, changes in proportions at 20 years include changes between 15 and 20 years. Estimates are cumulative. Thus, the proportion eligible for at least 3 weeks' pay for 20 years includes those eligible for at least 3 weeks' pay after fewer years of service.

[15] Estimates listed after type of benefit are for all plans for which at least a part of the cost is borne by the employer. "Noncontributory plans" include only those financed entirely by the employer. Excluded are plans legally required by the Federal Government, such as Social Security and railroad retirement.

[16] Establishments providing more than one type of retirement plan (e.g., an annuity and a lump-sum payment) may cause the sums of the separate plans to be greater than the total for all retirement plans.

[17] "Other" retirement plans provide for a fixed number of payments (more than one) after which payments are discontinued.

[18] Plans intended for use as paid holidays, vacations, or sick leave are not reported as paid personal leave, but are reported as holidays, vacations, or sick leave in accordance with the intent of the plan.

[19] Variable plans include those that provide differing amounts of leave based on length of service; unspecified plans are formal plans with no specified limit.

Appendix A. Scope and Method of Survey

In January 1987, the Bureau began to phase in a new 90-area program to replace the 70-area program that had produced annual surveys since July 1974. When the new plan is fully implemented in 1990, 32 of the areas will be surveyed annually, and two groups of 29 areas will be surveyed in alternate years. (For a full discussion of the change, see Laura Scofea, "BLS Area Wage Surveys Will Cover More Areas," *Monthly Labor Review*, June 1986, pp. 19-23.)

In each area surveyed,[1] the Bureau obtains wages and related benefits data from representative establishments within six broad industry divisions: Manufacturing; transportation, communication, and other public utilities; wholesale trade; retail trade; finance, insurance, and real estate; and services. Government operations and the construction and extractive industries are excluded. Small establishments—generally those with fewer than 50 employees—are excluded because they have few incumbents in the occupations studied. Appendix table 1 shows the number of establishments and workers estimated to be within the scope of this survey, as well as the number actually studied.

In the 32 areas surveyed annually, Bureau field representatives obtain data by personal visits at 4-year intervals. In intervening years, only information on employment and occupational earnings is collected by a combination of personal visit, mail questionnaire, and telephone interview from establishments participating in the previous survey.

In the two groups of 29 areas that are surveyed in alternate years, Bureau field representatives obtain data for a given area by personal visits if the previous data for the area were obtained primarily by mail and telephone. Thus, in a 4-year period, an area that was surveyed by personal visit the first year will have no survey in the second, a mail and telephone survey in the third, and none in the fourth. As with annual surveys, information on establishment practices and employee benefits is presented only for surveys conducted by personal visits; when information is collected primarily by mail and telephone, only information on employment and earnings is presented.

A sample of the establishments in the scope of the survey is selected for study prior to each personal visit survey. This sample, minus establishments which go out of business or are no longer within the industrial scope of the survey, is retained until the next personal visit survey is conducted. In most cases, establishments new to the area are not considered in the scope of the survey until the selection of a sample for a personal visit survey.

The sampling procedures involve detailed stratification by industry and number of employees of all establishments within the scope of a survey. From this stratified universe, a probability sample is selected, with each establishment having a predetermined chance of selection. To obtain optimum accuracy at minimum cost, a greater proportion of large than small establishments is selected. When data are combined, each establishment is weighted according to its probability of selection so that unbiased estimates are generated. For example, if one out of four establishments is selected, it is given a weight of 4 to represent itself plus three others. If data are not available for an establishment originally selected, the weights of other similar establishments are increased to account for the missing unit.

Occupations and earnings

Occupations selected for study are common to a variety of manufacturing and nonmanufacturing industries, and are of the following types: (1) Office clerical; (2) professional and technical; (3) maintenance, toolroom, and powerplant; and (4) material movement and custodial. Occupational classification is based on a uniform set of job descriptions designed to take account of interestablishment variation in duties within the same job. Occupations selected for study are listed and described in appendix B, along with corresponding occupational codes and titles from the 1980 edition of the *Standard Occupational Classification Manual*.

Unless otherwise indicated, the earnings data following the job titles are for all industries combined. Earnings data for some of the occupations listed and described, or for some industry divisions within the scope of the survey, are not presented in the A-series tables because either (1) data were insufficient to provide meaningful statistical results, or (2) there is possibility of disclosure of individual establishment data. Earnings data not shown separately for industry divisions are included in data for all industries combined.

Separate data for men's and women's earnings or earnings by occupational level are not presented when a significant number of workers are not identified by sex or level. In such cases, workers are only included for both sexes combined or for the overall level.

Occupational employment and earnings data are shown for full-time workers, i.e., those hired to work a regular weekly schedule. Earnings data exclude premium pay for overtime and for work on weekends, holidays, and late shifts. Also excluded are performance bonuses and lump-sum payments of the type negotiated in the auto and

aerospace industries, as well as profit-sharing payments, attendance bonuses, Christmas or year-end bonuses, and other nonproduction bonuses. Pay increases—but not bonuses—under cost-of-living allowance clauses, and incentive payments, however, are included. Weekly hours for office clerical and professional and technical occupations refer to the standard workweek (rounded to the nearest half hour) for which employees receive regular straight-time salaries (exclusive of pay for overtime at regular and/or premium rates). Average weekly earnings for these occupations are rounded to the nearest half dollar. Some A-series tables provide distributions of workers by earnings; changes in the size of earnings intervals are indicated by heavy vertical lines.

These surveys measure the level of occupational earnings in an area at a particular time. Changes in an occupational average over time reflect, in addition to earnings changes, factors such as changes in proportions of workers employed by high- or low-wage firms, or high-wage workers advancing to better jobs and being replaced by new workers at lower rates. Such shifts in employment could decrease an occupational average even though most establishments in an area increased wages since the last survey. Changes in earnings of occupational groups, shown in table A-7, are better indicators of wage trends than are earnings changes for individual jobs within the groups.

Average earnings reflect composite, areawide estimates. Industries and establishments differ in pay level and job staffing, and thus contribute differently to the estimates for each job. Pay averages may fail to reflect accurately the wage differential among jobs in individual establishments.

Average pay levels for men and women in selected occupations should not be assumed to reflect differences in pay of the sexes within individual establishments. Factors which may contribute to differences include progression within established rate ranges (only the rates paid incumbents are collected) and performance of specific duties within the general survey job descriptions. Job descriptions used to classify employees in these surveys usually are more generalized than those used in individual establishments and allow for minor differences among establishments in specific duties performed.

Occupational employment estimates represent the total in all establishments within the scope of the study and not the number actually surveyed. Because occupational structures among establishments differ, estimates of occupational employment obtained from the sample of establishments studied serve only to indicate the relative importance of the jobs studied. These differences in occupational structure do not affect materially the accuracy of the earnings data.

Wage trends for selected occupational groups

Indexes in table A-7 measure wages at a given time expressed as a percent of wages during the base period. Subtracting 100 from the index yields the percent change in wages from the base period to the date of the index. The percent increases in table A-7 relate to wage changes between the indicated dates. Annual rates of increase, where shown, reflect the amount of increase for 12 months when the time span between surveys was other than 12 months. These computations are based on the assumption that wages increased at a constant rate between surveys.

The indexes and percent increases are based on changes in average hourly earnings of men and women in establishments reporting the jobs listed below in both the current and previous year (matched establishments). The data are adjusted to remove the effect on average earnings of employment shifts among establishments and turnover of establishments included in survey samples. The percent increases, however, are still affected by factors other than wage increases. Turnover may affect an establishment average for an occupation when workers are paid under plans providing a range of wage rates for individual jobs. In periods of increased hiring, for example, new employees may enter at the bottom of the range, depressing the average without a change in wage rates.

Occupations used to compute wage trends are:

Office clerical

- Secretaries
- Typists I and II
- Key entry operators I and II
- Accounting clerks I, II, III, and IV
- Payroll clerks
- File clerks I, II, and III
- Messengers
- Order clerks I and II
- Switchboard operators

Electronic data processing

- Computer systems analysts I, II, III, and IV
- Computer programmers I, II, III, and IV
- Computer operators I, II, III, IV, V, and VI

Industrial nurses

- Registered industrial nurses

Skilled maintenance

- Carpenters
- Electricians
- Painters
- Machinists
- Mechanics (machinery)
- Pipefitters
- Motor vehicle mechanics
- Tool and die makers

Unskilled plant

- Janitors, porters, and cleaners
- Material handling laborers

Percent changes for individual areas in the program are computed as follows:

1. Each occupation is assigned a weight based on its proportion of employment in the occupational group in the earlier of the 2 years being compared. If for example, 1,000 workers were reported in the skilled maintenance group in the earlier year and 200 of these workers were painters, the weight assigned to painters would be 0.20. Using a constant employment weight dampens the effects of employment shifts on wage change measures.
2. Average earnings are computed for each occupation for the 2 years being compared. Earnings are used only from matched establishments; that is, establishments that are in the survey both years.
3. Group averages are computed by multiplying the weight of each occupation (step 1) by the occupation's average earnings for each year (step 2). The products are totaled to obtain group averages.

4. The ratio of group averages for 2 consecutive years is computed by dividing the average for the current year by the average for the earlier year. The result—expressed as a percent—less 100 is the percent change.

Pay relationships in establishments

Tables A-8 through A-11 compare average pay of occupations in individual establishments. These comparisons, expressed as pay relatives (pay for one of the occupations equals 100), differ from comparisons of overall survey averages, such as those shown in tables A-1 through A-6. The latter reflect differences in contributions to the survey averages by establishments with disparate pay levels; the pay relative comparisons are not affected by such differences. The following procedures are used to compute relatives in tables A-8 through A-11:

1. Establishments employing workers in both of the paired occupations were identified.

2. Pay levels (averages) for the two occupations were weighted by the combined employment of both jobs to reflect each establishment's contribution to the totals used in this comparison.

3. The weighted pay levels of the two jobs were summed separately; each total was divided by the other and the quotients multiplied by 100 to produce the two pay relatives shown for each job pairing.

Establishment practices and employee benefits

The incidence of selected establishment practices and employee benefits is studied for full-time production and related workers and office workers. Production and related workers (referred to hereafter as production workers) include working supervisors and all nonsupervisory workers (including group leaders and trainees) engaged in fabricating, processing, assembling, inspection, receiving, storage, handling, packing, warehousing, shipping, maintenance, repair, janitorial and guard services, auxiliary production for plant's own use (e.g., powerplant), and recordkeeping and other services closely associated with the above production operations. (Cafeteria and route workers are excluded in manufacturing industries but included in nonmanufacturing industries.) In finance and insurance, no workers are considered to be production workers. Office workers include working supervisors and all nonsupervisory workers (including lead workers and trainees) performing clerical or related office functions in such departments as accounting, advertising, purchasing, collection, credit, finance, legal, payroll, personnel, sales, industrial relations, public relations, executive, drafting or transportation. Administrative, executive, professional, and part-time employees as well as construction workers utilized as a separate work force are excluded from both the production and office worker categories.

Minimum entrance salaries (table B-1). Minimum entrance salaries for office workers relate only to the establishments visited. Because of the optimum sampling techniques used and the probability that large establishments are more likely than small establishments to have formal entrance rates above the subclerical level, the table is more representative of policies in larger establishments.

Shift differentials–manufacturing (table B-2). Data were collected on policies of manufacturing establishments regarding pay differentials for production workers on late shifts. Establishments considered as having policies are those which (1) have provisions in writing covering the operation of late shifts, or (2) have operated late shifts at any time during the 12 months preceding a survey. When establishments have several differentials which vary by job, the differential applying to the majority of the production workers is recorded. When establishments have differentials which apply only to certain hours of work, the differential applying to the most common schedule is recorded.

For purposes of this study, a late shift is either a second (evening) shift which ends at or near midnight or a third (night) shift which starts at or near midnight.

Differentials for second and third shifts are summarized separately for (1) establishment policies (an establishment's differentials are weighted by all production workers in the establishment at the time of the survey) and (2) effective practices (an establishment's differentials are weighted by production workers employed on the specified shift at the time of the survey).

Scheduled weekly hours; paid holidays; paid vacations; insurance, health, and retirement plans; and other selected benefits. Provisions which apply to a majority of the production or office workers in an establishment are considered to apply to all production or office workers in the establishment; a practice or provision is considered nonexistent when it applies to less than a majority. Holidays, vacations, insurance and health plans, and "other selected benefits" (table B-8) are considered applicable to employees currently eligible for the benefits. Retirement plans are considered applicable to employees currently eligible for participation and also to those who will eventually become eligible.

Scheduled weekly hours and days (table B-3). Scheduled weekly hours and days refer to the number of hours and days per week which full-time first (day) shift workers are expected to work, whether paid for at straight- time or overtime rates.

Paid holidays (table B-4). Holidays are included if workers who are not required to work are paid for the time off and those required to work receive premium pay or compensatory time off. They are included only if they are granted annually on a formal basis (provided for in written form or established by custom). Holidays are included even though in a particular year they fall on a nonworkday and employees are not granted another day off.

Data are tabulated to show the percent of workers who (1) are granted specific numbers of whole and half holidays and (2) are granted specified amounts of total holiday time (whole and half holidays are aggregated).

Paid vacations (table B-5). Establishments report their method of calculating vacation pay (time basis, percent of annual earnings, flat-sum payment, etc.) and the amount of vacation pay granted. Only basic formal plans are reported. Vacation bonuses, vacation-savings plans, and "extended" or "sabbatical" benefits beyond basic plans are excluded.

For tabulating vacation pay granted, all provisions are expressed on a time basis. Vacation pay calculated on other than a time basis is converted to its equivalent time period. Two percent of annual earnings, for example, is tabulated as 1 week's vacation pay.

Also, provisions after each specified length of service are related to all production or office workers in an establishment regardless of length of service. Vacation plans commonly provide for a larger amount of vacation pay as service lengthens. Counts of production or office workers by length of service were not obtained. The tabulations of vacation pay granted present, therefore, statistical measures of these provisions rather than proportions of workers actually receiving specific benefits.

Insurance, health, and retirement plans (table B-6). Insurance, health, and retirement plans include plans for which the employer pays either all or part of the cost. The benefits may be underwritten by an insurance company, paid directly by an employer or union, or provided by a health maintenance organization (HMO). Workers provided the option of an insurance plan or an HMO are reported under both types of plans. A plan is included even though a majority of the employees in an establishment do not choose to participate in it because they are required to bear part of its cost (provided the choice to participate is available to a majority). Federally required plans such as Social Security and railroad retirement are excluded. Benefit plans legally required by State governments, however, are included. In the past these plans were excluded unless the employer (1) contributed more than what was legally required or (2) benefits exceeded those specified in the State law.

Life insurance includes formal plans providing indemnity (usually through an insurance policy) in case of death of the covered worker.

Accidental death and dismemberment insurance is limited to plans which provide benefit payments in case of death or loss of limb or sight as a direct result of an accident.

Sickness and accident insurance includes only those plans which provide that predetermined cash payments be made directly to employees who lose time from work because of illness or injury, e.g., $100 a week for up to 26 weeks of disability.

Sick leave plans are limited to formal plans[3] which provide for continuing an employee's pay during absence from work because of illness. Data collected distinguish between (1) plans which provide full pay with no waiting period, and (2) plans which either provide partial pay or require a waiting period.

Long-term disability insurance plans provide payments to totally disabled employees upon the expiration of their paid sick leave and/or sickness and accident insurance, or after a predetermined period of disability (typically 6 months). Payments are made until the end of the disability, a maximum age, or eligibility for retirement benefits. Full or partial payments are almost always reduced by Social Security, workers' disability compensation, and private pension benefits payable to the disabled employee.

Hospitalization, surgical, and medical insurance plans provide at least partial payment for: 1) Hospital room charges; 2) inpatient surgery; and 3) doctors' fees for hospital, office, or home visits. These plans typically cover other expenses such as outpatient surgery and prescription drugs.

An HMO provides comprehensive medical care in return for pre-established fees. Unlike insurance, HMO's cover routine preventive care as well as care required because of an illness and do not have deductibles or coinsurance (although there may be small fixed copayments for selected services). HMO's may provide services through their own facilities; through contracts with hospitals, physicians, and other providers, such as individual practice associations (IPA's); or through a combination of methods.

Dental care plans provide at least partial payment for routine dental care, such as checkups and cleanings, fillings, and X-rays. Plans which provide benefits only for oral surgery or other dental care required as the result of an accident are not reported.

Vision care plans provide at least partial payment for routine eye examinations, eyeglasses, or both. Plans which provide benefits only for orthoptics or for eyeglasses resulting from an accident are not reported.

Alcohol and drug abuse treatment plans provide at least partial payment for institutional treatment (in a hospital or specialized facility) for addiction to alcohol or drugs.

Hearing care plans provide at least partial payment for hearing examinations, hearing aids, or both.

Retirement pension plans provide for regular payments to the retiree for life. Included are deferred profit-sharing plans which provide the option of purchasing a lifetime annuity. Lump-sum plans are defined as those providing for a single payment at retirement; "other" plans include those providing for a fixed number of payments (more than one) after which payments are discontinued.

Health plan participation (table B-7). Estimates are presented on the percent of production and office workers participating in hospitalization, surgical, and medical insurance, HMO's, dental, vision, alcohol and drug abuse treatment, and hearing plans. When an establishment was unable to supply the number of plan participants, approximations (imputations) were made, where possible, by using information from other establishments offering a similar plan. Imputations were never made for more than one-third of the production or clerical workers in an industry group (all industries, manufacturing, nonmanufacturing, and transportation and utilities); when imputations were made, they were usually for considerably less than one-third of the workers. Participation rates were estimated and published if participant numbers (including imputations) were available for 90 percent or more of the production or office workers in an industry group; consequently, a published estimate may not relate to a group total.

Other selected benefits (table B-8). Information on the incidence of severance pay, supplemental unemployment benefits, cost-of-living adjustments, jury-duty leave, funeral leave, military leave, and personal leave is presented in table B-8.

Severance pay plans provide one or a limited number of payments to employees permanently separated through no fault of their own for such reasons as technological change or closing or scaling down of a plant or department. Excluded are retirement, profit-sharing, or savings plans, or plans limited to workers separated without prior notice.

Supplemental unemployment benefits (SUB) relate to formal plans designed to supplement benefits paid under State unemployment insurance systems.

Cost-of-living adjustments relate to formal plans by which wage rates are adjusted periodically in keeping with changes in the BLS Consumer Price Index or some other measure.

Paid funeral and jury-duty leave data relate to formal plans that provide at least partial payment for time lost as a result of attending funerals of specified family members, or serving as a juror.

Military leave relates to formal plans providing excused absence from work with full or partial pay while on annual training duty. Plans that provide paid leave only for *temporary emergency* duty are excluded.

Paid personal leave plans are designed to allow workers to be absent from work for a variety of personal reasons. Provisions intended for use as (or extension of) paid holidays, vacations, or sick leave are not reported as paid personal leave, but are reported as holidays, vacations, or sick leave in accordance with the intent of the provision.

Footnotes

[1]The Bureau also conducts more limited area studies in over 100 areas at the request of the Employment Standards Administration of the U.S. Department of Labor.

[8] An establishment is considered as having a formal plan if it specifies at least the minimum number of days of sick leave available to each employee. Such a plan need not be written, but informal sick leave allowances determined on an individual basis are excluded.

Appendix table 1. Establishments and workers within scope of survey and number studied in Cleveland, OH,[1] September 1990

Industry division[2]	Minimum employment in establishments in scope of survey	Number of establishments		Workers in establishments				
		Within scope of survey[3]	Studied	Within scope of survey				Studied[4]
				Total[5]		Full-time production and related workers	Full-time office workers	
				Number	Percent			
All establishments								
All divisions	-	1,154	224	310,785	100	121,227	47,920	147,649
Manufacturing	100	353	78	119,857	39	67,654	18,764	65,759
Nonmanufacturing	-	801	146	190,928	61	53,573	29,156	81,890
Transportation, communication, and other public utilities[6]	100	44	16	23,899	8	11,196	4,968	19,569
Wholesale trade	50	161	17	17,172	6	(*)	(*)	1,998
Retail trade	100	175	35	74,250	24	(*)	(*)	26,138
Finance, insurance, and real estate	50	125	27	38,568	12	(*)	(*)	19,996
Services[7]	50	296	51	37,039	12	(*)	(*)	14,189
Large establishments								
All divisions	-	110	73	150,926	100	57,379	28,453	119,751
Manufacturing	500	37	31	59,963	40	30,756	10,754	55,127
Nonmanufacturing	-	73	42	90,963	60	26,623	17,699	64,624
Transportation, communication, and other public utilities[6]	500	7	6	19,617	13	9,739	4,401	17,917
Wholesale trade	500				-	(*)	(*)	
Retail trade	500	34	17	38,032	24	(*)	(*)	21,087
Finance, insurance, and real estate	500	16	9	23,752	16	(*)	(*)	17,540
Services[7]	500	16	10	11,562	8	(*)	(*)	8,080

[1] The Cleveland, OH Primary Metropolitan Statistical Area, as defined by the Office of Management and Budget through October 1984, consists of Cuyahoga, Geauga, Lake, and Medina Counties. The "workers within scope of survey" estimates provide a reasonably accurate description of the size and composition of the labor force included in the survey. Estimates are not intended, however, for comparison with other statistical series to measure employment trends or levels since (1) planning of wage surveys requires establishment data compiled considerably in advance of the payroll period studied, and (2) small establishments are excluded from the scope of the survey.

[2] The *Standard Industrial Classification Manual* was used in classifying establishments by industry. All government operations are excluded from the scope of the survey.

[3] Includes all establishments with total employment at or above the minimum limitation. All outlets (within the area) of nonmanufacturing companies are considered as one establishment when located within the same industry division.

[4] Includes executive, professional, part-time, seasonal, and other workers excluded from the separate production and office categories.

[5] Abbreviated to "transportation and utilities" in the A- and B-series tables. Taxicabs and services incidental to water transportation are excluded. Local transit operations and an electric utility (supplying less than half the electricity consumed in the Cleveland area) are municipally owned and are excluded by definition from the scope of the survey.

[6] Separate data for this division are not presented in the A- and B-series tables, but the division is represented in the "all industries" and "nonmanufacturing" estimates.

[7] Hotels and motels; laundries and other personal services; business services; automobile repair, rental, and parking; motion pictures; nonprofit membership organizations (excluding religious and charitable organizations); and engineering and architectural services.

Appendix table 2. Percent of workers covered by labor-management agreements, Cleveland, OH, September 1990

Industry division	*Production and related workers*	*Office workers*
All industries	53	7
Manufacturing	62	2
Nonmanufacturing	41	11
Transportation and utilities	96	55

NOTE: An establishment is considered to have a contract covering all production or office workers if a majority of such workers is covered by a labor-management agreement. Therefore, all other production or office workers are employed in establishments that either do not have labor-management contracts in effect, or have contracts that apply to fewer than half of their production or office workers. Estimates are not necessarily representative of the extent to which all workers in the area may be covered by the provisions of labor-management agreements, because small establishments are excluded and the industrial scope of the survey is limited.

Appendix table 3. Industrial composition in manufacturing, Cleveland, OH, September 1990

(Percent of all manufacturing workers)

Transportation equipment	20
Motor vehicles and equipment	12
Aircraft and parts	7
Primary metal industries	17
Blast furnace and basic steel products	11
Iron and steel foundries	5
Industrial machinery and equipment	11
Printing and publishing	9
Fabricated metal products	9
Metal forgings and stampings	6
Electronic and other electric equipment	8
Chemicals and allied products	7

NOTE: This information is based on estimates of total employment derived from universe materials compiled before actual survey.

Appendix B. Occupational Descriptions

The primary purpose of preparing job descriptions for the Bureau's wage surveys is to assist its field representatives in classifying into appropriate occupations workers who are employed under a variety of payroll titles and different work arrangements from establishment to establishment and from area to area. This permits grouping of occupational wage rates representing comparable job content. Because of this emphasis on comparability of occupational content, the Bureau's job descriptions may differ significantly from those in use in individual establishments or those prepared for other purposes. In applying these job descriptions, the Bureau's field representatives are instructed to exclude working supervisors; apprentices; learners, beginners, and trainees; and part-time, temporary, and probationary workers, unless specifically included in the job description. Handicapped workers whose earnings are reduced because of their handicap are also excluded.

Listed below are five occupations for which new or revised descriptions are being introduced in this survey:

Computer systems analyst
Computer programmer
Computer operator
Drafter
Electronics technician

In addition, the stenographer, computer data librarian, and peripheral equipment operator occupations have been dropped and the maintenance, toolroom, and power-plant descriptions have been modified so that workers performing maintenance services for establishments other than their employing establishment are not automatically excluded.

The titles and numerical codes below the job titles in this appendix are taken from the 1980 edition of the *Standard Occupational Classification Manual* (SOC), issued by the U.S. Department of Commerce, Office of Federal Statistical Policy and Standards.

In general, the Bureau of Labor Statistics' occupational descriptions are much more specific than those found in the SOC manual. The BLS occupation, "Registered Industrial Nurse," for example, is limited to workers providing medical assistance and other related services (e.g., health education) to persons who are ill or become ill or suffer an injury in a factory or other establishment. The SOC occupation (code 29) includes a variety of registered nurses (e.g., school nurse, head nurse, general duty nurse, private duty nurse) that are excluded from the BLS description.

Thus, in comparing the results of this survey with other sources, factors such as differences in occupational definitions and survey scope should be taken into consideration.

Office

SECRETARY

(4622: Secretary)

Provides principal secretarial support in an office, usually to one individual, and, in some cases, also to the subordinate staff of that individual. Maintains a close and highly responsive relationship to the day-to-day activities of the supervisor and staff. Works fairly independently, receiving a minimum of detailed supervision and guidance. Performs varied clerical and secretarial duties requiring a knowledge of office routine and an understanding of the organization, programs, and procedures related to the work of the office.

Exclusions. Not all positions that are titled "secretary" possess the above characteristics. Examples of positions which are excluded from the definition are as follows:

a. Clerks or secretaries working under the direction of secretaries or administrative assistants as described in e;

b. Stenographers not fully performing secretarial duties;

c. Stenographers or secretaries assigned to two or more professional, technical, or managerial persons of equivalent rank;

d. Assistants or secretaries performing any kind of technical work, e.g., personnel, accounting, or legal work;

e. Administrative assistants or supervisors performing duties which are more difficult or more responsible than the secretarial work described in LR-1 through LR-4;

f. Secretaries receiving additional pay primarily for maintaining confidentiality of payroll records or other sensitive information;

g. Secretaries performing routine receptionist, typing, and filing duties following detailed instructions and guidelines; these duties are less responsible than those described in LR-1 below;

h. Trainees.

Classification by level. Secretary jobs which meet the required characteristics are matched at one of five levels according to two factors: (a) Level of the secretary's supervisor within the overall organizational structure, and (b) level of the secretary's responsibility. The table following the explanations of these factors indicates the level of the secretary for each combination of factors.

Level of Secretary's Supervisor (LS)

Secretaries should be matched at one of the three LS levels below best describing the organization of the secretary's supervisor.

LS-1

Organizational structure is not complex and internal procedures and administrative controls are simple and informal; supervisor directs staff through face-to-face meetings.

LS-2

Organizational structure is complex and is divided into subordinate groups that usually differ from each other as to subject matter, function, etc.; supervisor usually directs staff through intermediate supervisors; internal procedures and administrative controls are formal. An entire organization (e.g., division, subsidiary, or parent organization) may contain a variety of subordinate groups which meet the LS-2 definition. Therefore, it is not unusual for one LS-2 supervisor to report to another LS-2 supervisor.

The presence of subordinate supervisors does not by itself mean LS-2 applies, e.g., a clerical processing organization divided into several units, each performing very similar work, is placed in LS-1.

In smaller organizations or industries such as retail trade, with relatively few organizational levels, the supervisor may have an impact on the policies and major programs of the entire organization, and may deal with important outside contacts, as described in LS-3.

LS-3

Organizational structure is divided into two or more subordinate supervisory levels (of which at least one is a managerial level) with several subdivisions at each level. Executive's program(s) are usually interlocked on a direct and continuing basis with other major organizational segments, requiring constant attention to extensive formal coordination, clearances, and procedural controls. Executive typically has: Financial decisionmaking authority for assigned program(s); considerable impact on the entire organization's financial position or image; and responsibility for, or has staff specialists in, such areas as personnel and administration for assigned organization. Executive plays an important role in determining the policies and major programs of the entire organization, and spends considerable time dealing with outside parties actively interested in assigned program(s) and current or controversial issues.

Level of Secretary's Responsibility (LR)

This factor evaluates the nature of the work relationship between the secretary and the supervisor or staff, and the extent to which the secretary is expected to exercise initiative and judgment. Secretaries should be matched at the level best describing their level of responsibility. When a position's duties span more than one LR level, the introductory paragraph at the beginning of each LR level should be used to determine which of the levels best matches the position. (Typically, secretaries performing at the higher levels of responsibility also perform duties described at the lower levels.)

LR-1

Carries out recurring office procedures independently. Selects the guideline or reference which fits the specific case. Supervisor provides specific instructions on new assignments and checks completed work for accuracy. Performs varied duties including or comparable to the following:

a. Responds to routine telephone requests which have standard answers; refers calls and visitors to appropriate staff. Controls mail and assures timely staff response; may send form letters;
b. As instructed, maintains supervisor's calendar, makes appointments, and arranges for meeting rooms;
c. Reviews materials prepared for supervisor's approval for typographical accuracy and proper format;

d. Maintains recurring internal reports, such as: Time and leave records, office equipment listings, correspondence controls, training plans, etc.;
e. Requisitions supplies, printing, maintenance, or other services. Types, takes and transcribes dictation, and establishes and maintains office files.

LR-2

Handles differing situations, problems, and deviations in the work of the office according to the supervisor's general instructions, priorities, duties, policies, and program goals. Supervisor may assist secretary with special assignments. Duties include or are comparable to the following:

a. Screens telephone calls, visitors, and incoming correspondence; personally responds to requests for information concerning office procedures; determines which requests should be handled by the supervisor, appropriate staff member, or other offices. May prepare and sign routine, nontechnical correspondence in own or supervisor's name;
b. Schedules tentative appointments without prior clearance. Makes arrangements for conferences and meetings and assembles established background materials, as directed. May attend meetings and record and report on the proceedings;
c. Reviews outgoing materials and correspondence for internal consistency and conformance with supervisor's procedures; assures that proper clearances have been obtained, when needed;
d. Collects information from the files or staff for routine inquiries on office program(s) or periodic reports. Refers nonroutine requests to supervisor or staff;
e. Explains to subordinate staff supervisor's requirements concerning office procedures. Coordinates personnel and administrative forms for the office and forwards for processing.

LR-3

Uses greater judgment and initiative to determine the approach or action to take in nonroutine situations. Interprets and adapts guidelines, including unwritten policies, precedents, and practices, which are not always completely applicable to changing situations. Duties include or are comparable to the following:

a. Based on a knowledge of the supervisor's views, composes correspondence on own initiative about administrative matters and general office policies for supervisor's approval;
b. Anticipates and prepares materials needed by the supervisor for conferences, correspondence, appointments, meetings, telephone calls, etc;, and informs supervisor on matters to be considered;
c. Reads publications, regulations, and directives and takes action or refers those that are important to the supervisor and staff;
d. Prepares special or one-time reports, summaries, or replies to inquiries, selecting relevant information from a variety of sources such as reports, documents, correspondence, other offices, etc., under general direction;
e. Advises secretaries in subordinate offices on new procedures; requests information needed from the subordinate office(s) for periodic or special conferences, reports, inquiries, etc. Shifts clerical staff to accommodate workload needs.

LR-4

Handles a wide variety of situations and conflicts involving the clerical or administrative functions of the office which often cannot be brought to the attention of the executive. The executive sets the overall objectives of the work. Secretary may participate in developing the work deadlines. Duties include or are comparable to the following:

a. Composes correspondence requiring some understanding of technical matters; may sign for executive when technical or policy content has been authorized;
b. Notes commitments made by executive during meetings and arranges for staff implementation. On own initiative, arranges for staff member to represent organization at conferences and meetings, establishes appointment priorities, or reschedules or refuses appointments or invitations;
c. Reads outgoing correspondence for executive's approval and alerts writers to any conflict with the file or departure from policies or executive's viewpoints; gives advice to resolve the problems;
d. Summarizes the content of incoming materials, specially gathered information, or meetings to assist executive; coordinates the new information with background office sources; draws attention to important parts or conflicts;
e. In the executive's absence, ensures that requests for action or information are relayed to the appropriate staff member; as needed, interprets request and helps implement action; makes sure that information is furnished in timely manner; decides whether executive should be notified of important or emergency matters.

Exclude secretaries performing any of the following duties:

Acts as office manager for the executive's organization, e.g., determines when new procedures are needed for changing situations and devises and implements alternatives; revises or clarifies procedures to eliminate conflict or duplication; identifies and resolves various problems that affect the orderly flow of work in transactions with parties outside the organization.

Prepares agenda for conferences; explains discussion topics to participants; drafts introductions and develops background information and prepares outlines for executive or staff member(s) to use in writing speeches.

Advises individuals outside the organization on the executive's views on major policies or current issues facing the organization; contacts or responds to contacts from high-ranking outside officials (e.g., city or State officials, members of Congress, presidents of national unions or large national or international firms, etc.) in unique situations. These officials may be relatively inaccessible, and each contact typically must be handled differently, using judgment and discretion.

Criteria For Matching Secretaries By Level

Level of Secretary's Supervisor	Level of Secretary's Responsibility			
	LR-1	LR-2	LR-3	LR-4
LS-1	I	II	III	IV
LS-2	I	III	IV	V
LS-3	I	IV	V	V

TYPIST

(4624: Typist)

Uses a manual, electric, or automatic typewriter to type various materials. Included are automatic typewriters that are used only to record text and update and reproduce previously typed items from magnetic cards or tape. May include typing of stencils, mats, or similar materials for use in duplicating processes. May do clerical work involving little special training, such as keeping simple records, filing records and reports, or sorting and distributing incoming mail.

Excluded from this definition is work that involves:

a. Typing directly from spoken material that has been recorded on disks, cylinders, belts, tapes, or other similar media;
b. The use of varitype machines, composing equipment, or automatic equipment in preparing material for printing; and
c. Familiarity with specialized terminology in various keyboard commands to manipulate or edit the recorded text to accomplish revisions, or to perform tasks such as extracting and listing items from the text, or transmitting text to other terminals, or using "sort" commands to have the machine reorder material. Typically requires the use of automatic equipment which may be either computer linked or have a programmable memory so that material can be organized in regularly used formats or preformed paragraphs which can then be coded and stored for future use in letters or documents.

Typist I

Performs *one or more of the following:* Copy typing from rough or clear drafts; or routine typing of forms, insurance policies, etc.; or setting up simple standard tabulations; or copying more complex tables already set up and spaced properly.

Typist II

Performs *one or more of the following:* Typing material in final form when it involves combining material from several sources; or responsibility for correct spelling, syllabication, punctuation, etc., of technical or unusual words or foreign language material; or planning layout and typing of complicated statistical tables to maintain uniformity and balance in spacing. May type routine form letters, varying details to suit circumstances.

WORD PROCESSOR

(4624: Typist)

Primary duty is to operate word-processing equipment to enter, store, retrieve, change, and present text or tabulations. Produces a variety of printed copy such as letters, documents, or reports. May enter regularly used formats or stored paragraphs that are organized and coded for future use. Recorded texts can be changed by rearranging paragraphs, replacing words, shifting lines, etc.

(Word-processing equipment typically has a full- or partial-page video-display screen (CRT) and a separate printer. The equipment may be integrated with a digital computer, have telecommunications capabilities, and also have capabilities for adding to or upgrading features. Automatic or electronic typewriters with limited text-editing capabilities, and often with single-line electronic display "windows," are not considered word-processing equipment.)

Excluded from this definition are:

a. Workers whose primary function is to enter a data base for purposes other than composition (see key entry operator);
b. Workers who use equipment and data base for purposes such as accounting, inventory control, sales, or original writing and editing;
c. Workers responsible for preparation of published reports, including page layout or selection of different type sizes.

Positions are classified into levels on the basis of the following definitions:

Word Processor I

Performs tasks requiring a knowledge of the word-processing equipment and familiarity with the formats and forms used in the establishment. Proficiency in grammar, spelling, and punctuation is also required to produce printed materials accurately. May refer problems to supervisor or higher level processor, or refer to operating manual.

Word Processor II

Work at this level requires considerable classroom or on-the-job training and may involve working directly with task originator rather than through supervisor. In addition to work assignments described for level I, duties include *one or more of the following:*

a. Uses the more sophisticated features of the equipment to carry out complex assignments, such as sorting, merging, and organizing text, or maintaining files;
b. Applies knowledge of specialized terminology or foreign language;
c. Tests new applications and procedures; or
d. Trains lower level processors.

KEY ENTRY OPERATOR

(4793: Data entry keyer)

Operates keyboard-controlled data entry device such as keypunch machine or key-operated magnetic tape or disk encoder to transcribe data into a form suitable for computer processing. Work requires skill in operating an alphanumeric keyboard and an understanding of transcribing procedures and relevant data entry equipment.

Positions are classified into levels on the basis of the following definitions:

Key Entry Operator I

Work is routine and repetitive. Under close supervision or following specific procedures or detailed instructions, works from various standardized source documents which have been coded and require little or no selecting, coding, or interpreting of data to be entered. Refers to supervisor problems arising from erroneous items, codes, or missing information.

Key Entry Operator II

Work requires the application of experience and judgment in selecting procedures to be followed and in searching for, interpreting, selecting, or coding items to be entered from a variety of source documents. On occasion may also perform routine work as described for level I.

NOTE: Excluded are operators above level II using the key entry controls to access, read, and evaluate the substance of specific records to take substantive actions, or to make entries requiring a similar level of knowledge.

ACCOUNTING CLERK

(4712: Bookkeeper and accounting and auditing clerk)

Performs one or more accounting tasks such as posting to registers and ledgers; balancing and reconciling accounts; verifying the internal consistency, completeness, and mathematical accuracy of accounting documents; assigning prescribed accounting distribution codes; examining and verifying the clerical accuracy of various types of reports, lists, calculations, postings, etc.; preparing journal vouchers; or making entries or adjustments to accounts.

Levels I and II require a basic knowledge of routine clerical methods and office practices and procedures as they relate to the clerical processing and recording of transactions and accounting information. Levels III and IV require a knowledge and understanding of the established and standardized bookkeeping and accounting procedures and techniques used in an accounting system, or a segment of an accounting system, where there are few variations in the types of transactions handled. In addition, some jobs at each level may require a basic knowledge and understanding of the terminology, codes, and processes used in an automated accounting system.

Accounting Clerk I

Performs very simple and routine accounting clerical operations, for example, recognizing and comparing easily identified numbers and codes on similar and repetitive accounting documents, verifying mathematical accuracy, and identifying discrepancies and bringing them to the supervisor's attention. Supervisor gives clear and detailed instructions for specific assignments. Employee refers to supervisor all matters not covered by instructions. Work is closely controlled and reviewed in detail for accuracy, adequacy, and adherence to instructions.

Accounting Clerk II

Performs one or more routine accounting clerical operations, such as: Examining, verifying, and correcting accounting transactions to ensure completeness and accuracy of data and proper identification of accounts, and checking that expenditures will not exceed obligations in specified accounts; totaling, balancing, and reconciling collection vouchers; posting data to transaction sheets where employee identifies proper accounts and items to be posted; and coding documents in accordance with a chart (listing) of accounts. Employee follows specific and detailed accounting procedures. Completed work is reviewed for accuracy and compliance with procedures.

Accounting Clerk III

Uses a knowledge of double entry bookkeeping in performing one or more of the following: Posts actions to journals, identifying subsidiary accounts affected and debit and credit entries to be made and assigning proper codes; reviews computer printouts against manually maintained journals, detecting and correcting erroneous postings, and preparing documents to adjust accounting classifications and other data; or reviews lists of transactions rejected by an automated system, determining reasons for rejections, and preparing necessary correcting material. On routine assignments, employee selects and applies established procedures and techniques. Detailed instructions are provided for difficult or unusual assignments. Completed work and methods used are reviewed for technical accuracy.

Accounting Clerk IV

Maintains journals or subsidiary ledgers of an accounting system and balances and reconciles accounts. Typical duties include one or both of the following: Reviews invoices and statements (verifying information, ensuring sufficient funds have been obligated, and if questionable, resolving with the submitting unit, determining accounts involved, coding transactions, and processing material through data processing for application in the accounting system); and/or analyzes and reconciles computer printouts with operating unit reports (contacting units and researching causes of discrepancies, and taking action to ensure that accounts balance). Employee resolves problems in recurring assignments in accordance with previous training and experience. Supervisor provides suggestions for handling unusual or nonrecurring transactions. Conformance with requirements and technical soundness of completed work are reviewed by the supervisor or are controlled by mechanisms built into the accounting system.

NOTE: Excluded from level IV are positions responsible for maintaining either a general ledger or a general ledger in combination with subsidiary accounts.

PAYROLL CLERK

(4713: Payroll and timekeeping clerk)

Performs the clerical tasks necessary to process payrolls and to maintain payroll records. Work involves *most of the following*: Processing workers' time or production records; adjusting workers' records for changes in wage rates, supplementary benefits, or tax deductions; editing payroll listings against source records; tracing and correcting errors in listings; and assisting in preparation of periodic summary payroll reports. In a nonautomated payroll system, computes wages. Work may require a practical knowledge of governmental regulations, company payroll policy, or the computer system for processing payrolls.

FILE CLERK

(4696: File clerk)

Files, classifies, and retrieves material in an established filing system. May perform clerical and manual tasks required to maintain files. Positions are classified into levels on the basis of the following definitions:

File Clerk I

Performs routine filing of material that has already been classified or which is easily classified in a simple serial classification system (e.g., alphabetical, chronological, or numerical). As requested, locates readily available material in files and forwards material; and may fill out withdrawal charge. May perform simple clerical and manual tasks required to maintain and service files.

File Clerk II

Sorts, codes, and files unclassified material by simple (subject matter) headings or partly classified material by finer subheadings. Prepares simple related index and cross-reference aids. As requested, locates clearly identified material in files and forwards material. May perform related clerical tasks required to maintain and service files.

File Clerk III

Classifies and indexes file material such as correspondence, reports, technical documents, etc., in an established filing system containing a number of varied subject matter files. May also file this material. May keep records of various types in conjunction with the files. May lead a small group of lower level file clerks.

MESSENGER

(4745: Messenger)

Performs various routine duties such as running errands, operating minor office machines such as sealers or mailers, opening mail, distributing mail on a regularly scheduled route or in a familiar area, and other minor clerical work. May deliver mail that requires some special handling, e.g., mail that is insured, registered, or marked for special delivery.

Excluded are positions which include any of the following as significant duties:

a. Operating motor vehicles;
b. Delivering valuables or security-classified mail when the work requires a continuing knowledge of special procedures for handling such items;
c. Weighing mail, determining postage, or recording and controlling registered, insured, and certified mail in the mail room;
d. Making deliveries to unfamiliar or widely separated buildings or points which are not part of an established route; or
e. Directing other workers.

ORDER CLERK

(4664: Order clerk)

Receives written or verbal customers' purchase orders for material or merchandise from customers or sales people. Work typically involves some combination of the following duties: Quoting prices; determining availability of ordered items and suggesting substitutes when necessary; advising expected delivery date and method of delivery; recording order and customer information on order sheets; checking order sheets for accuracy and adequacy of information recorded; ascertaining credit rating of customer; furnishing customer with acknowledgment of receipt of order; following up to see that order is delivered by the specified date or to let customer know of a delay in delivery; maintaining order file; checking shipping invoice against original order.

Exclude workers paid on a commission basis or whose duties include any of the following: Receiving orders for services rather than for material or merchandise; providing customers with consultative advice using knowledge gained from engineering or extensive technical training; emphasizing selling skills; handling material or merchandise as an integral part of the job.

Positions are classified into levels according to the following definitions:

Order Clerk I

Handles orders involving items which have readily identified uses and applications. May refer to a catalog, manufacturer's manual, or similar document to insure that proper item is supplied or to verify price of ordered item.

Order Clerk II

Handles orders that involve making judgments such as choosing which specific product or material from the establishment's product lines will satisfy the customer's needs, or determining the price to be quoted when pricing involves more than merely referring to a price list or making some simple mathematical calculations.

RECEPTIONIST

(4645: Receptionist)

Greets visitors, determines nature of visits, and directs visitors to appropriate persons. Receptionist duties may also include providing information, making appointments, answering a telephone (other than switchboard or console), keeping a log of visitors, and issuing visitor passes. May also perform typing or other routine clerical duties which may occupy a major portion of time, and are usually performed at the reception desk.

This classification excludes workers operating a telephone switchboard or console, performing guard duties, or performing more difficult clerical duties.

SWITCHBOARD OPERATOR

(4732: Telephone operator)

Operates a telephone switchboard or console used with a private branch exchange (PBX) system to relay incoming, outgoing, and intrasystem calls. May provide information to callers, record and transmit messages, keep record of calls placed and toll charges. Besides operating a telephone switchboard or console, may also type or perform routine clerical work (typing or routine clerical work may occupy the major portion of the worker's time, and is usually performed while at the switchboard or console). Chief or lead operators in establishments employing more than one operator are excluded. For an operator who also acts as a receptionist, see Switchboard operator-receptionist.

SWITCHBOARD OPERATOR-RECEPTIONIST

(4645: Receptionist)

At a single-position telephone switchboard or console, acts both as an operator—see Switchboard operator—and as a receptionist. Receptionist's work involves such duties as greeting visitors; determining nature of visitor's business and providing appropriate information; referring visitor to appropriate person in the organization or contacting that person by telephone and arranging an appointment; keeping a log of visitors.

Professional and Technical

COMPUTER SYSTEMS ANALYST

(171: Computer system analyst)

Analyzes business or scientific problems for solution through electronic data processing. Gathers information from users, defines work problems, and, if feasible, designs a system of computer programs and procedures to resolve the problems. Develops complete specifications to enable computer programmers to prepare required programs: analyzes subject-matter operations to be automated; specifies number and types of records, files, and documents to be used and outputs to be produced; prepares work diagrams and data flow charts; coordinates tests of the system and participates in trial runs of new and revised systems; and recommends computer equipment changes to obtain more effective operations. May also write the computer programs.

Excluded are:

a. Trainees who receive detailed directives and work plans, select authorized procedures for use in specific situations, and seek assistance for deviations and problems;

b. Positions which require a bachelor's degree in a specific scientific field (other than computer science), such as an engineering, mathematics, physics, or chemistry degree; however, positions are potential matches where the required degree may be from any of several possible scientific fields;

c. Computer programmers who write computer programs and solve user problems not requiring systems modification;

d. Workers who primarily analyze and evaluate problems concerning *computer equipment* or its selection or utilization; and

e. Computer systems programmers or analysts who primarily write programs or analyze problems concerning the system software, e.g., operating systems, compilers, assemblers, system utility routines, etc., which provide basic services for the use of all programs and provide for the scheduling or the execution of programs; however, positions matching this definition may develop a "total package" which includes not only analyzing work problems to be processed but also selecting the computer equipment and system software required.

Positions are classified into levels on the basis of the following definitions:

Computer Systems Analyst I

At this level, *initial assignments* are designed to expand practical experience in applying systems analysis techniques and procedures. Provides *several phases* of the required systems analysis where the nature of the system is predetermined. Uses established factfinding approaches, knowledge of pertinent work processes and procedures, and familiarity with related computer programming practices, system software, and computer equipment.

Carries out factfinding and analysis as assigned, usually of a single activity or a routine problem; applies established procedures where the nature of the system, feasibility, computer equipment and programming language have already been decided; may assist a higher level systems analyst by preparing the detailed specifications required by computer programmers from information developed by the higher level analyst; may research routine user problems and solve them by modifiying the existing system when the solutions follow clear precedents. When cost and deadline estimates are required, results receive close review.

The supervisor defines objectives, priorities, and deadlines. Incumbents work independently; adapt guides to specific situations; resolve problems and deviations according to established practices; and obtain advice where precedents are unclear or not available. Completed work is reviewed for conformance to requirements, timeliness, and efficiency. May supervise technicians and others who assist in specific assignments.

Computer Systems Analyst II

Applies systems analysis and design skills in an area such as a recordkeeping or scientific operation. A system of several varied sequences or formats is usually developed, e.g., develops systems for maintaining depositor accounts in a bank, maintaining accounts receivable in a retail establishment, maintaining inventory accounts in a manufacturing or wholesale establishment, or processing a limited problem in a scientific project. Requires competence in most phases of system analysis and knowledge of pertinent system software and computer equipment and of the work processes, applicable regulations, workload, and practices of the assigned subject-matter area. Recognizes probable interactions of related computer systems and predicts impact of a change in assigned system.

Reviews proposals which consist of objectives, scope, and user expectations; gathers facts, analyzes data, and prepares a project synopsis which compares alternatives in terms of cost, time, availability of equipment and personnel, and recommends a course of action; and upon approval of synopsis, prepares specifications for development of computer programs. Determines and resolves data processing problems and coordinates the work with program, users, etc.; orients user personnel on new or changed procedures. May conduct special projects such as data element and code standardization throughout a broad system, working under specific objectives and bringing to the attention of the supervisor any unusual problems or controversies.

Work independently under overall project objectives and requirements; apprises supervisor about progress and unusual complications. Guidelines usually include existing systems and the constraints imposed by related systems with which the incumbent's work must be meshed. Adapts design approaches successfully used in precedent systems. Completed work is reviewed for timeliness, compatibility with other work, and effectiveness in meeting requirements. May provide functional direction to lower level assistants on assigned work.

OR

Works on a segment of a complex data processing scheme or broad system, as described for computer systems analyst, level III. Works independently on routine assignments and receives instruction and guidance on complex assignments. Work is reviewed for accuracy of judgment, compliance with instructions, and to insure proper alignment with the overall system.

Computer Systems Analyst III

Applies systems analysis and design techniques to complex computer systems in a *broad* area such as manufacturing; finance management; engineering, accounting, or statistics; logistics planning; material management, etc. Usually, there are multiple users of the system; however, there may be complex one-user systems, e.g., for engineering or

research projects. Requires com
concepts, and methods and k
equipment, and the regulations,
or more subject-matter areas.
responsible for recognizing prob
sources. Produces innovative so

Maintains and modifies com
integrated production schedul
record in which every item of
system of records. Guides users
on the implications of new or r
project proposals, identifies c
feasibility studies; recommends
approved projects. Interprets
users when conflicts exist. May
integrating the work of one or
programs.

Supervision and nature of r
precedents for the operation of

Computer Systems Analyst

Applies expert systems analy
in a specialized design area and
complex systems by *applying n*
sources and flow, interactions
capabilities and limitations of t
and overall requirements are d
the primary constraints typical
existing systems or processes.
and III.

Typical duties and responsibil

a. As team or project
highly complex des
projections, scientif
dented computer
systems from feasibi
new sources of dat
by others. May ser
or two team mem
members may also
as described below.

b. As staff specialist
data security, tele
standards develop
unyielding problem

petence in all phases of systems analysis techniques, nowledge of available system software, computer tructure, techniques, and management practices of one since *input data usually come from diverse sources,* is able conflicts and integrating diverse data elements and utions for a variety of complex problems.

plex systems or develops new subsystems such as an ng, inventory control, cost analysis, or sales analysis each type is automatically processed through the full n formulating requirements; advises on alternatives and evised data processing systems; analyzes resulting user missions and errors in requirements, and conducts optimum approach and develops system design for nformation and informally arbitrates between system erve as lead analyst in a design subgroup, directing and two lower level analysts, each responsible for several

view are similar to level II; existing systems provide ew subsystems.

IV

sis and design techniques to complex *system development* l/or resolves unique or unyielding problems in existing *w technology.* Work requies a broad knowledge of data f existing complex systems in the organization, and the e system software and computer equipment. Objectives fined in the organization's EDP policies and standards; ly are those imposed by the need for compatibility with upervision and nature of review are similar to levels II

ties include one or more of the following:

leader, provides systems design *in a specialized and gn area,* e.g., interrelated business statistics and/or c systems, mathematical models, or similar unprece- ystems. *Establishes the framework of new computer* ity studies to post-implementation evaluation. Devises and develops new approaches and techniques for use e as technical authority for a design area. At least one bers perform work at level III; one or two team erform work as a level IV staff specialist or consultant

r consultant, with expertise in a specialty area (e.g., communications, systems analysis techniques, EDP ent, etc.), plans and conducts analyses of unique or s in a broad system. Identifies problems and specific issues in assigned area and prepares overall project recommendations from an EDP standpoint, including feasible advances in EDP technology; upon acceptance, determines a design strategy that anticipates directions of change; designs and monitors necessary testing and implementation plans. Performs work such as: Studies broad areas of projected work processes which cut across the organization's established EDP systems; conducts continuing review of computer technological developments applicable to system design and prepares long-range forecasts; develops EDP standards where new and improved approaches are needed; or develops recommendations for a management information system where new concepts are required.

Computer Systems Analysts V

As a top technical expert, develops broad unprecedented computer systems and/or conducts critical studies central to the success of large organizations having extensive technical or highly diversified computer requirements. Considers such requirements as broad organization policy and the diverse user needs of several organizational levels and locations. Works under general administrative direction.

Typical duties and reponsibilities include one or more of the following:

a. As team or project leader, guides the development of broad, unprecedented computer systems. The information requirements are complex and voluminous. Devises completely new ways to locate and develop data sources; establishes new factors and criteria for making subject-matter decisions. Coordinates factfinding, analysis, and design of the system and applies the most recent developments in data processing technology and computer equipment. Guidelines consist of state-of-the-art technology and general organizational policy. *At least one team member performs work at level IV.*

b. As staff specialist or consultant, is a recognized leader and authority in a large organization (as defined above). Performs at least two of the following: a) has overall responsibility for evaluating the significance of technological advances and developing EDP standards where new and improved approaches are needed, e.g., programming techniques; b) conceives and plans exploratory investigations critical to the overall organization where useful precedents do not exist and new concepts are required, e.g., develops recommendations regarding a comprehensive management information system; or c) evaluates existing EDP organizational policy for effectiveness, devising and formulating changes in the organization's position on broad policy issues. May be assisted on individual projects by other analysts.

COMPUTER PROGRAMMER

(397: Programmer)

Performs programming services for establishments or for outside organizations who may contract for services. Converts specifications (precise descriptions) about business or scientific problems into a sequence of detailed instructions to solve problems by electronic data processing (EDP) equipment, i.e., digital computers. Draws program flow charts to describe the processing of data and develops the precise steps and processing logic which, when entered into the computer in coded language (COBOL, FORTRAN, or other programming language), cause the manipulation of data to achieve desired results. Tests and corrects programs and prepares instructions for operators who control the computer during runs. Modifies programs to increase operating efficiency or to respond to changes in work processes; maintains records to document program development and revisions.

At levels I, II, and III, computer programmers *may also perform* programming analysis such as: Gathering facts from users to define their business or scientific problems and to investigate the feasibility of solving problems through new or modified computer programs; developing specifications for data inputs, flow, actions, decisions, and outputs; and participating on a continuing basis in the overall program planning along with other EDP personnel and users.

In contrast, at levels IV and V, some programming analysis must be performed as part of the programming assignment. The analysis duties are identified in a separate paragraph at levels I, II, III, and IV, and are part of each alternative described at level V. However, the systems requirements are defined by systems analysts or scientists.

Excluded are:

a. Positions which require a bachelor's degree in a specific scientific field (other than computer science), such as an engineering, mathematics, physics, or chemistry degree; however, positions are potential matches where the required degree may be from any of several possible scientific fields;
b. Positions responsible for developing and modifying computer systems;
c. Computer programmers who perform level IV or V duties but who perform no programming analysis;
d. Workers who primarily analyze and evaluate problems concerning computer equipment or its selection or utilization;
e. Computer systems programmers or analysts who primarily write programs or analyze problems concerning the system software, e.g., operating systems, compilers, assemblers, system utility routines, etc., which provide basic services for the use of all programs and provide for the scheduling of the execution of programs; however positions matching this definition may develop a "total package" which includes not only writing programs to process data but also selecting the computer equipment and system software required;
f. Employees who have significant responsibility for the management or supervision of workers (e.g., systems analysts) whose positions are *not* covered in this definition; or employees with significant responsibility for *other functions* such as computer operations, data entry, system software, etc.; and
g. Positions *not* requiring: 1) three years of administrative, technical or *substantive* clerical experience; 2) a bachelor's degree in any field; or 3) any equivalent combination of experience and education yielding basic skills in problem analysis and communication.

Positions are classified into levels based on the following defintions:

Computer Programmer I

At this trainee level, assignments are usually planned to develop basic programming skills because incumbents are typically inexperienced in applying such skills on the job. Assists higher level staff by performing elementary programming tasks which concern limited and simple data items and steps which closely follow patterns or previous work done in the organization, e.g., drawing flow charts, writing operator instructions, or coding and testing routines to accumulate counts, tallies, or summaries. May perform routine programming assignments (as described in level II) under close supervision.

In addition, as training and to assist higher level staff, *may perform* elementary factfinding concerning a specified work process, e.g., a file of clerical records which is treated as a unit (invoices, requisitions, or purchase orders, etc.); reports findings to higher level staff.

Receives classroom and/or on-the-job training in computer programming concepts, methods, and techniques and in the basic requirements of the subject matter area. May receive training in elementary factfinding. Detailed, step-by-step instructions are given for each task and any deviation must be authorized by a supervisor. Work is closely monitored in progress and reviewed in detail upon completion.

Computer Programmer II

At this level, initial assignments are designed to develop competence in applying established programming procedures to routine problems. Performs routine programming assignments that do not require skilled background experience but do require knowledge of established programming procedures and data procesing requirements. Works according to clear-cut and complete specifications. The data are refined and the format of the final product is very similar to that of the input or is well defined when significantly different, i.e., there are few, if any, problems with interrelating varied records and ouputs.

Maintains and modifies routine programs. Makes approved changes by amending program flow charts, developing detailed processing logic, and coding changes. Tests and documents modifications and writes operator instructions. May write routine new programs using prescribed specifications; may confer with EDP personnel to clarify procedures, processing logic, etc.

In addition, and as continued training, may evaluate simple interrelationships in the immediate programming area, e.g., whether a contemplated change in one part of a simple program would cause unwanted results in a related part; confers with user representatives to gain an understanding of the situation sufficient to formulate the needed change; and implements the change upon approval of the supervisor or higher level staff. The incumbent is provided with charts, narrative descriptions of the functions performed, an approved statement of the product desired (e.g., a change in a local establishment report), and the inputs, outputs, and record formats.

Reviews objectives and assignment details with higher level staff to insure thorough understanding; uses judgment in selecting among authorized procedures and seeks assistance when guidelines are inadequate, significant deviations are proposed, or when

unanticipated problems arise. Work is usually monitored in progress; all work is reviewed upon completion for accuracy and compiliance with standards.

Computer Programmer III

As a fully qualified computer programmer, applies standard programming procedures and detailed knowledge of pertinent subject matter (e.g., work processes, governing rules, clerical procedures, etc.) in a programming area such as: A record-keeping operation (supply, personnel and payroll, inventory, purchasing, insurance payments, depositor accounts, etc.); a well-defined statistical or scientific problem; or other standardized operation or problem. Works according to approved statements of requirements and detailed specifications. While the data are clear cut, related, and equally available, there may be substantial interrelationships of a variety of records, and several varied sequences of formats are usually produced. The programs developed or modified typically are linked to several other programs in that the output of one becomes the input for another. Recognizes probable interactions of other related programs with the assigned program(s) and is familiar with related system software and computer equipment. Solves conventional programming problems. (In small organizations, may maintain programs which concern or combine several operations, i.e., users, or develop programs where there is one primary user and the others give input.)

Performs such duties as: Develops, modifies, and maintains assigned programs; designs and implements modifications to the interrelation of files and records within programs in consultation with higher level staff; monitors the operation of assigned programs and responds to problems by diagnosing and correcting errors in logic and coding; and implements and/or maintains assigned portions of a scientific programming, techniques to well-defined mathematical, statistical, engineering, or other scientific problems usually requiring the translation of mathematical notation into processing logic and code. (Scientific programming includes assignments such as: Using predetermined physical laws expressed in mathematical terms to relate one set of data to another; the routine storage and retrieval of field test data; and using procedures for real-time command and control, scientific data reduction, signal processing, or similar areas.) Tests and documents work and writes and maintains operator instructions for assigned programs. Confers with other EDP personnel to obtain or provide factual data.

In addition, may carry out factfinding and programming analysis of a single activity or routine problem, applying established procedures where the nature of the program, feasibility, computer equipment, and programming language have already been decided. May analyze present performance of the program and take action to correct deficiencies based on discussion with the user and consultation with and approval of the supervisor or higher level staff. May assist in the review and analysis of detailed program specifications and in program design to meet changes in work processes.

Works independently under specified objectives; applies judgment in devising program logic and in selecting and adapting standard programming procedures; resolves problems and deviations according to established practices; and obtains advice where precedents are unclear or not available. Completed work is reviewed for conformance to standards, timeliness, and efficiency. May guide or instruct lower level programmers; may supervise technicians and others who assist in specific assignments.

OR

Works on complex programs (as described in level IV) under close direction of higher level staff or supervisor. May assist higher level staff by independently performing moderately complex tasks assigned, and performing complex tasks under close supervision.

Computer Programmer IV

Applies expertise in programming procedures to complex programs, recommends the redesign of programs, investigates and analyzes feasibility and program requirements, and develops programming specifications. Assigned programs typically affect a broad multiuser computer system which meets the data processing needs of a broad area (e.g., manufacturing, logistics planning, finance management, human resources, or material management) or a computer system for a project in engineering, research, accounting, statistics, etc. Plans the full range of programming actions to produce several interrelated but different products from numerous and diverse data elements which are usually from different sources; solves difficult programming problems. Uses knowledge of pertinent system software, computer equipment, work processes, regulations, and management practices.

Performs such duties as: Develops, modifies, and maintains complex programs; designs and implements the interrelations of files and records within programs which will effectively fit into the overall design of the project; working with problems or concepts, develops programs for the solution to major scientific computational problems requiring the analysis and development of logical or mathematic descriptions of functions to be programmed; and develops occasional special programs, e.g., a critical path analysis program to assist in managing a special project. Tests, documents, and writes operating instructions for all work. Confers with other EDP personnel to secure information, investigate and resolve problems, and coordinate work efforts.

In addition, performs such programming analysis as: Investigating the feasibility of alternate program design approaches to determine the best balanced solution, e.g., one that will best satisfy immediate user needs, facilitate subsequent modification, and conserve resources; on typical maintenance projects and smaller scale, limited new projects, assisting user personnel in defining problems or needs and determining work organization, the necessary files and records, and their interrelation with the program; or on large or more complicated projects, participating as a team member along with other EDP personnel and users and having responsibility for a portion of the project.

Works independently under overall objectives and direction, apprising the supervisor about progress and unusual complications. Modifies and adapts precedent solutions and proven approaches. Guidelines include constraints imposed by the related programs with which the incumbent's programs must be meshed. Completed work is reviewed for timeliness, compatibility with other work, and effectiveness in meeting requirements. May function as team leader or supervise a few lower level programmers or technicians on assigned work.

Computer Programmer V

At level V, workers are typically either supervisors, team leaders, staff specialists, or consultants. Some programming analysis is included as a part of the programming assignment. Supervision and review are similar to level IV.

Typical duties and responsibilities include one or more of the following:

a. *In a supervisory capacity,* plans, develops, coordinates, and directs a large and important programming project (finance, manufacturing, sales/marketing, human resources, or other broad area) or a number of small programming projects with complex features. A substantial portion of the work supervised (usually 2 to 3 workers) is comparable to that described for level IV. Supervises, coordinates, and reviews the work of a small staff, normally not more than 15 programmers and technicians; estimates personnel needs and schedules, assigns and reviews work to meet completion date. These day-to-day supervisors evaluate performance, resolve complaints and make recommendations on hiring and firing. They do not make final decisions on curtailing projects, reorganizing, or reallocating resources.

b. *As team leader, staff specialist, or consultant,* defines complex scientific problems (e.g., computational) or other highly complex programming problems (e.g., generating overall forecasts, projections, or other new data fields widely different from the source data or untried at the scale proposed) and directs the development of computer programs for their solution; or designs improvements in complex programs where existing precedents provide little guidance, such as an interrelated group of mathematical/staistical programs which support health insurance, natural resources, marketing trends, or other research activities. In conjunction with users (scientists or specialists), defines major problems in the subject-matter area. Contacts coworkers and user personnel at various locations to plan and coordinate project and gather data; devises ways to obtain data not previously available; and arbitrates differences between various program users when conflicting requirements arise. May perform simulation studies to determine effects of changes in computer equipment or system software or may assess the feasibility and soundness of proposed programming projects which are novel and complex. Typically develops programming techniques and procedures where few precedents exist. May be assisted on projects by other programmers or technicians.

COMPUTER OPERATOR

(4612: Computer operator)

Monitors and operates the *control console* of either a main-frame digital computer or a group of mini-computers, in accordance with operating instructions, to process data. Work is characterized by the following:

- Studies operating instructions to determine equipment setup needed;
- Loads equipment with required items (tapes, cards, paper, etc.);
- Switches necessary auxiliary equipment into system;
- Starts and operates console;
- Diagnoses and corrects equipment malfunctions;
- Reviews error messages and makes corrections during operation or refers problems;
- Maintains operating record.

May test run new or modified programs and *assist* in modifying systems or programs. Included within the scope of this definition are fully qualified computer operators, trainees working to become fully qualified operators, and lead operators providing *technical* assistance to lower level positions.

Excluded are:

a. Workers operating small computer systems where there is little or no opportunity for operator intervention in program processing and few requirements to correct equipment malfunctions;

b. Peripheral equipment operators and remote terminal or computer operators who do not run the *control console* of either a mainframe digital computer or a group of minicomputers; and

c. Workers using the computer for scientific, technical, or mathematical work when a knowledge of the subject matter is required.

Computer Operator I

Receives on-the-job training in operating the control console (sometimes augmented by classroom training). Works under close personal supervision and is provided detailed written or oral guidance before and during assignments. As instructed, resolves common operating problems. May serve as an assistant operator working under close supervision or performing a portion of a more senior operator's work.

Computer Operator II

Processes scheduled routines which present few difficult operating problems (e.g., infrequent or easily resolved error conditions). In response to computer output instructions or error conditions, applies standard operating or corrective procedure. Refers problems which do not respond to preplanned procedure. May serve as an assistant operator, working under general supervision.

Computer Operator III

Processes a range of scheduled routines. In addition to operating the system and resolving common error conditions, diagnoses and acts on machine stoppage and error conditions not fully covered by existing procedures and guidelines (e.g., resetting switches and other controls or making mechanical adjustments to maintain or restore equipment operations). In response to computer output instructions or error conditions, may deviate from standard procedures if standard procedures do not provide a solution. Refers problems which do not respond to corrective procedures.

Computer Operator IV

Adapts to a variety of nonstandard problems which require extensive operator intervention (e.g., frequent introduction of new programs, applications, or procedures). In response to computer output instructions or error conditions, chooses or devises a course of action from among several alternatives and alters or deviates from standard procedures if standard procedures do not provide a solution (e.g., reassigning equipment in order to work around faulty equipment or transfer channels); then refers problems. Typically, completed work is submitted to users without supervisory review.

Computer Operator V

Resolves a variety of difficult operating problems (e.g., making unusual equipment connections and rarely used equipment and channel configurations to direct processing through or around problems in equipment, circuits, or channels or reviewing test run requirements and developing unusual system configurations that will allow test programs to process without interfering with ongoing job requirements). In response to computer output instructions and error conditions or to avoid loss of information or to conserve computer time, operator deviates from standard procedures. Such actions

best copy available

may materially alter the computer unit's production plans. May spend considerable time away from the control station providing technical assistance to lower level operators and assisting programmers, systems analysts, and subject matter specialists in resolving problems.

Computer Operator VI

In addition to level V responsibilities, uses a knowledge of program language, computer features, and software systems to assist in: (1) maintaining, modifying, and developing operating systems or programs; (2) developing operating instructions and techniques to cover problem situations; and (3) switching to emergency backup procedures.

DRAFTER

(372: Drafting occupation)

Performs drafting work requiring knowledge and skill in drafting methods, procedures, and techniques. Prepares drawings of structures, facilities, land profiles, water systems, mechanical and electrical equipment, pipelines, duct systems, and similar equipment, systems, and assemblies. Drawings are used to communicate engineering ideas, designs, and information. Uses recognized systems of symbols, legends, shadings, and lines having specific meanings in drawings.

Excluded are:

a. Designers using technical knowledge and judgment to conceive, plan, or modify designs;
b. Illustrators or graphic artists using artistic ability to prepare illustrations;
c. Office drafters preparing charts, diagrams, and room arrangements to depict statistical and administrative data;
d. Cartographers preparing maps and charts primarily using a technical knowledge of cartography;
e. Computer-assisted drafters; and
f. Supervisors.

Positions are classified into levels based on the following definitions:

Drafter I

Working under close supervision, traces or copies finished drawings, making clearly indicated revisions in notes and dimensions. Uses appropriate templates to draw curved lines. Assignments are designed to develop increasing skill in various drafting techniques. Work is spot checked during progress and reviewed upon completion.

NOTE: Excludes drafters receiving instruction in the elementary methods and techniques of drafting and learning to use and care for equipment. Workers in these excluded positions typically trace and copy simple drawings having straight lines and few details; prepare border lines and title boxes for drawing sheets; and prepare basic title headings by tracing or using lettering kits.

Drafter I

Working under close supervision, traces or copies finished drawings, making clearly indicated revisions in notes and dimensions. Uses appropriate templates to draw curved lines. Assignments are designed to develop increasing skill in various drafting techniques. Work is spot checked during progress and reviewed upon completion.

NOTE: Excludes drafters receiving instruction in the elementary methods and techniques of drafting and learning to use and care for equipment. Workers in these excluded positions typically trace and copy simple drawings having straight lines and few details; prepare border lines and title boxes for drawing sheets; and prepare basic title headings by tracing or using lettering kits.

Drafter II

Prepares drawings of simple, easily visualized structures, systems, parts or equipment from sketches or marked-up prints. Selects appropriate templates or uses a compass and other equipment needed to complete assignments. Drawings fit familiar patterns and present few technical problems. Supervisor provides detailed instructions on new assignments, gives guidance when questions arise, and reviews completed work for accuracy. Typical assignments include:

From marked-up prints, revises the original drawings of a plumbing system by increasing pipe diameters;
From sketches, draws building floor plans, determing size, spacing, and arrangement of freehand lettering according to scale;
Draws simple land profiles from predetermined structural dimensions and reduced survey notes. Traces river basin maps and enters symbols to denote stream sampling locations, municipal and industrial waste discharges, and water supplies.

Drafter III

Prepares various drawings of such units as construction projects or parts and assemblies, including various views, sectional profiles, irregular or reverse curves, hidden lines, and small or intricate details. Work requires use of most of the conventional drafting techniques and a working knowledge of the terms and procedures of the occupation. Makes arithmetic computations using standard formulas. Familiar or recurring work is assigned in general terms. Unfamiliar assignments include information on methods, procedures, sources of information, and precedents to follow. Simple revisions to existing drawings may be assigned with a verbal explanation of the desired results. More complex revisions are produced from sketches or specifications which clearly depict the desired product. Typical assignments include:

From a layout and manual references, prepares several views of a simple gear system. Obtains dimensions and tolerances from manuals and by measuring the layout;
Draws base and elevation views, sections, and details of new bridges or other structures; revises complete sets of roadway drawings for highway construction projects; or prepares block maps, indicating water and sewage line locations;
Prepares and revises detail and design drawings for such projects as the construction and installation of electrical or electronic equipment, plant wiring, and the manufacture and assembly of printed circuit boards. Drawings typically include details of mountings, frames, guards, or other accessories; conduit layouts; or wiring diagrams indicating transformer sizes, conduit locations, and mountings.

Drafter IV

Prepares complete sets of complex drawings which include multiple views, detail drawings, and assembly drawings. Drawings include complex design features that require considerable drafting skill to visualize and portray. Assignments regularly require the use of mathematical formulas to draw land contours or to compute weights, center of gravity, load capacities, dimensions, quantities of material, etc. Works from sketches, models, and verbal information supplied by an engineer, architect, or designer to determine the most appropriate views, detail drawings, and supplementary information needed to complete assignments. Selects required information from precedents, manufacturers' catalogs, and technical guides. Independently resolves most of the problems encountered. Supervisor or design originator may suggest methods of approach or provide advice on unusually difficult problems. Typical assignments include:

From layouts or sketches, prepares complete sets of drawings of test equipment to be manufactured. Several cross-sectional and subassembly drawings are required. From information supplied by the design originator and from technical handbooks and manuals, describes dimensions, tolerances, fits, fabrication techniques, and standard parts to use in manufacturing the equipment;

From electronic schematics, information as to maximum size, and manuals giving dimensions of standard parts, determines the arrangement and prepares drawings of printed circuit boards;

From precedents, drafting standards, and established practices, prepares final construction drawings for floodgates, navigation locks, dams, bridges, culverts, levees, channel excavations, dikes, and berms; prepares boring profiles, typical cross-sections, and land profiles; and delineates related topographical details as required;

Prepares final drawings for street paving and widenning for water and sewer lines having complex trunk lines; reduces field notes and calculates true grades. From engineering designs, lays out plan, profile and detail appurtenances required; notifies supervisor of conflicting details in design.

NOTE: Excludes drafters performing work of similar difficulty to that described at this level but who provide support for a variety of organizations which have widely differing functions or requirements.

Drafter V

Works closely with design originators, preparing drawings of *unusual, complex, or original designs which require a high degree of precision*. Performs unusually difficult assignments requiring considerable initiative, resourcefulness, and drafting expertise. Assures that anticipated problems in manufacture, assembly, installation, and operation are resolved by the drawings produced. Exercises independent judgment in selecting and interpreting data based on knowledge of the design intent. Although working primarily as a drafter, may occasionally interpret general designs prepared by others to complete minor details. May provide advice and guidance to lower level drafters or serve as coordinator and planner for large and complex drafting projects.

ELECTRONICS TECHNICIAN

(3711: Electrical and electronic engineering technologist and technician)
(615: Electrician and electronic equipment repairer)

Works on various types of electronic equipment and related devices by performing one or more of the following: Installing, maintaining, repairing, overhauling, troubleshooting, modifying, constructing, and testing. Work requires practical application of technical knowledge of electronics principles, ability to determine malfunctions, and skill to put equipment in required operating condition.

The equipment—consisting of either many different kinds of circuits or multiple repetition of the same kind of circuit—includes, but is not limited to, the following: (a) Electronic transmitting and receiving equipment (e.g., radar, radio, television, telephone, sonar, navigational aids), (b) personal and mainframe computers and terminals, (c) industrial and medical measuring and controlling equipment, (d) satellite equipment, and (e) industrial robotic devices.

This classification excludes repairers of such standard electronic equipment as common office machines and household radio and television sets; production assemblers and testers; workers whose primary duty is servicing electronic test instruments; technicians who have administrative or supervisory responsibility; and drafters, designers, and professional engineers.

Positions are classified into levels on the basis of the following definitions:

Electronics Technician I

Applies working technical knowledge to perform simple or routine tasks in working on electronic equipment, following detailed instructions which cover virtually all procedures. Work typically involves such tasks as: Assisting higher level technicians by performing such activities as replacing components, wiring circuits, and taking test readings; repairing simple electronic equipment; and using tools and common test instruments (e.g., digital multimeters, signal generators, semiconductor testers, curve tracers, oscilloscopes). Is not required to be familiar with complex interrelationships of circuits. This knowledge however, may be acquired through assignments designed to increase competence (including classroom training) so that worker can advance to higher level technician.

Receives technical guidance, as required, from supervisor or higher level technician. Work is typically spot-checked, but is given detailed review when new or advanced assignments are involved.

Electronics Technician II

Applies comprehensive technical knowledge to solve complex problems (i.e., those that typically can be solved solely by properly interpreting manufacturers' manuals or similar documents) in working on electronic equipment. Work typically involves: A familiarity with the interrelationships of circuits; and judgment in determining work sequence and in selecting tools and testing instruments, usually less complex than those used by the level III technician. Receives technical guidance, as required, from supervisor or higher level technician, and work is reviewed for specific compliance with accepted practices and work assignments. May provide technical guidance to lower level technicians.

Electronics Technician III

Applies advanced technical knowledge to solve unusually complex problems (i.e., those that typically cannot be solved solely by reference to manufacturers' manuals or similar documents) in working on electronic equipment. Examples of such problems include determining the location and density of circuitry, evaluating electromagnetic radiation, isolating malfunctions, and incorporating engineering changes. Work typically involves: A detailed understanding of the interrelationships of circuits; exercising independent judgment in performing such tasks as making circuit analyses, calculating wave forms, tracing relationships in signal flow; and regularly using complex test instruments (e.g., high-frequency pulse generators, frequency synthesizers, distortion analyzers, complex computer control equipment).

Work may be reviewed by supervisor (frequently an engineer or designer) for general compliance with accepted practices. May provide technical guidance to lower level technicians.

REGISTERED INDUSTRIAL NURSE

(29: Registered nurse)

A registered nurse gives nursing service under general medical direction to ill or injured employees or other persons who become ill or suffer an accident on the premises of a factory or other establishment. Duties involve *a combination of the following*: Giving first aid to the ill or injured; attending to subsequent dressing of employees' injuries; keeping records of patients treated; preparing accident reports for compensation or other purposes; assisting in physical examinations and health evaluations of applicants and employees; and planning and carrying out programs involving health education, accident prevention, evaluation of plant environment, or other activities affecting the health, welfare, and safety of all personnel. Nursing supervisors or head nurses in establishments employing more than one nurse are excluded.

Maintenance, Toolroom, and Powerplant

MAINTENANCE CARPENTER

(6422: Carpenter)

Performs the carpentry duties necessary to construct and maintain in good repair building woodwork and equipment such as bins, cribs, counters, benches, partitions, doors, floors, stairs, casings, and trim made of wood. Work involves *most of the following*: Planning and laying out of work from blueprints, drawings, models, or verbal instructions; using a variety of carpenter's handtools, portable power tools, and standard measuring instruments; making standard shop computations relating to dimensions of work; and selecting materials necessary for the work. In general, the work of the maintenance carpenter requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

MAINTENANCE ELECTRICIAN

(615: Electrical and electronic equipment repairer)
(6432: Electrician)

Performs a variety of electrical trade functions such as the installation, maintenance, or repair of equipment for the generation, distribution, or utilization of electric energy. Work involves *most of the following*: Installing or repairing any of a variety of electrical equipment such as generators, transformers, switchboards, controllers, circuit breakers, motors, heating units, conduit systems, or other transmission equipment; working from blueprints, drawings, layouts, or other specifications; locating and diagnosing trouble in the electrical system or equipment; working standard computations relating to load requirements of wiring or electrical equipment; and using a variety of electrician's handtools and measuring and testing instruments. In general, the work of the maintenance electrician requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

MAINTENANCE PAINTER

(6442: Painter, construction and maintenance)

Paints and redecorates walls, woodwork, and fixtures. Work *involves the following*: Knowledge of surface peculiarities and types of paint required for different applications; preparing surface for painting by removing old finish or by placing putty or filler in nail holes and interstices; and applying paint with spray gun or brush. May mix colors, oils, white lead, and other paint ingredients to obtain proper color or consistency. In general, the work of the maintenance painter requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

MAINTENANCE MACHINIST

(613: Industrial machinery repairer)

Produces replacement parts and new parts in making repairs of metal parts of mechanical equipment. Work involves *most of the following*: Interpreting written instructions and specifications; planning and laying out of work; using a variety of machinist's handtools and precision measuring instruments; setting up and operating standard machine tools; shaping of metal parts to close tolerances; making standard shop computations relating to dimensions of work, tooling, feeds, and speeds of machining; knowledge of the working properties of the common metals; selecting standard materials, parts, and equipment required for this work; and fitting and assembling parts into mechanical equipment. In general, the machinist's work normally requires a rounded training in machine-shop practice usually acquired through a formal apprenticeship or equivalent training and experience.

MAINTENANCE MECHANIC (MACHINERY)

(613: Industrial machinery repairer)

Repairs machinery or mechanical equipment. Work involves *most of the following*: Examining machines and mechanical equipment to diagnose source of trouble; dismantling or partly dismantling machines and performing repairs that mainly involve the use of handtools in scraping and fitting parts; replacing broken or defective parts with items obtained from stock; ordering the production of a replacement part by a machine shop or sending the machine to a machine shop for major repairs; preparing written specifications for major repairs or for the production of parts ordered from machine shops; reassembling machines; and making all necessary adjustments for operation. In general, the work of a machinery maintenance mechanic requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience. Excluded from this classification are workers whose *primary duties* involve setting up or adjusting machines.

MAINTENANCE PIPEFITTER

(645: Plumber, pipefitter, and steamfitter)

Installs or repairs water, steam, gas, or other types of pipe and pipefittings. Work involves *most of the following*: Laying out work and measuring to locate position of pipe from drawings or other written specifications; cutting various sizes of pipe to correct lengths with chisel and hammer or oxyacetylene torch or pipe-cutting machines; threading pipe with stocks and dies; bending pipe by hand-driven or power-driven machines; assembling pipe with couplings and fastening pipe to hangers; making standard shop computations relating to pressures, flow, and size of pipe required; and making standard tests to determine whether finished pipes meet specifications. In general, the work of the maintenance pipefitter requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience. *Workers primarily engaged in installing and repairing building sanitation or heating systems are excluded.*

MILLWRIGHT

(6178: Millwright)

Installs new machines or heavy equipment, and dismantles and installs machines or heavy equipment when changes in plant layout are required. Work involves *most of the following*: Planning and laying out work; interpreting blueprints or other specifications; using a variety of handtools and rigging; making standard shop computations relating to stresses, strength of materials, and centers of gravity; aligning and balancing equipment; selecting standard tools, equipment, and parts to be used; and installing and maintaining in good order power transmission equipment such as drives and speed reducers. In general, the millwright's work normally requires a rounded training and experience in the trade acquired through a formal apprenticeship or equivalent training and experience.

MOTOR VEHICLE MECHANIC

(611: Vehicle and mobile equipment mechanic and repairer)

Repairs, rebuilds, or overhauls major assemblies of internal combustion automobiles, buses, trucks, or tractors. Work involves most of the following: Diagnosing the source of trouble and determining the extent of repairs required; replacing worn or broken parts such as piston rings, bearings, or other engine parts; grinding and adjusting valves; rebuilding carburetors; overhauling transmissions; and repairing fuel injection, lighting, and ignition systems. In general, the work of the motor vehicle mechanic requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

This classification does not include mechanics who repair customers' vehicles or who only perform minor repair and tuneup of motor vehicles. It does, however, include fully qualified journeymen mechanics even though most of their time may be spent on minor repairs and tuneups.

GENERAL MAINTENANCE WORKER

(6179: Mechanic and repairer, not elsewhere classified)

Performs general maintenance and repair of building structures and their mechanical, electrical, or sanitary systems. May also perform general maintenance and repair of machinery. Work requires a basic practical knowledge of several maintenance trades in order to perform most of the following: Keeping in good repair building woodwork; replacing electrical switches, fixtures, and motors; occasional painting or touching up of structure or equipment; repairing or replacing plumbing fixtures; and replacing broken window panes.

Excluded are positions requiring a formal apprenticeship or equivalent training in one or more crafts. Also excluded are workers participating in such a program.

MAINTENANCE TRADES HELPER

(863: Helper; mechanic and repairer)

(864: Helper; construction trades)

Assists one or more workers in the skilled maintenance trades by performing specific or general duties of lesser skill, such as keeping a worker supplied with materials and tools; cleaning working area, machine, and equipment; assisting journeyman by holding materials or tools; and performing other unskilled tasks as directed by journeyman. The kind of work the helper is permitted to perform varies from trade to trade: In some trades the helper is confined to supplying, lifting, and holding materials and tools, and cleaning working areas; and in others he is permitted to perform specialized machine operations, or parts of a trade that are also performed by workers on a full-time basis.

MACHINE-TOOL OPERATOR (TOOLROOM)

(6813: Machinist)

(731-2: Metalworking and plasticworking machine setup operator)

Specializes in operating one or more than one type of machine tool (e.g., jig borer, grinding machine, engine lathe, milling machine) to machine metal for use in making or maintaining jigs, fixtures, cutting tools, gauges, or metal dies or molds used in shaping or forming metal or nonmetallic material (e.g., plastic, plaster, rubber, glass). *Work typically involves*: Planning and performing difficult machining operations which require complicated setups or a high degree of accuracy; setting up machine tool or tools (e.g., install cutting tools and adjust guides, stops, working tables, and other controls to handle the size of stock to be machined; determine proper feeds, speeds, tooling, and operation sequence or select those prescribed in drawings, blueprints, or layouts); using a variety of precision measuring instruments; making necessary adjustments during machining operation to achieve requisite dimensions to very close tolerances. May be required to select proper coolants and cutting and lubricating oils, to recognize when tools need dressing, and to dress tools. In general, the work of a machine-tool operator (toolroom) at the skill level called for in this classification requires extensive knowledge of machine-shop and toolroom practice usually acquired through considerable on-the-job training and experience.

For cross-industry wage study purposes, this classification does *not* include machine-tool operators (toolroom) employed in tool and die jobbing shops.

TOOL AND DIE MAKER

(6811: Tool and die maker)

Constructs and repairs jigs, fixtures, cutting tools, gauges, or metal dies or molds used in shaping or forming metal or nonmetallic material (e.g., plastic, plaster, rubber, glass). *Work typically involves*: Planning and laying out work according to models, blueprints, drawings, or other written or oral specifications; understanding the working properties of common metals and alloys; selecting appropriate materials, tools, and processes required to complete task; making necessary shop computations; setting up and operating various machine tools and related equipment; using various tool and die maker's handtools and precision measuring instruments; working to very close

tolerances; heat-treating metal parts and finished tools and dies to achieve required qualities; fitting and assembling parts to prescribed tolerances and allowances. In general, the tool and die maker's work requires rounded training in machine-shop and toolroom practice usually acquired through formal apprenticeship or equivalent training and experience.

For cross-industry wage study purposes, this classification does *not* include tool and die makers who (1) are employed in tool and die jobbing shops or (2) produce forging dies (die sinkers).

STATIONARY ENGINEER

(6931: Stationary engineer)

Operates and maintains one or more systems such as heat, air-conditioning (cool, humidify, dehumidify, filter, and circulate air), refrigeration, steam or high-temperature water, or electricity. Duties involve: Observing and interpreting readings on gauges, meters, and charts which register various aspects of the system's operation; adjusting controls to insure safe and efficient operation of the system and to meet demands for the service provided; recording in logs various aspects of the system's operation; keeping the engines, machinery, and equipment of the system in good working order. May direct and coordinate activities of other workers (not stationary engineers) in performing tasks directly related to operating and maintaining the system or systems.

The classification excludes head or chief engineers in establishments employing more than one engineer; workers required to be skilled in the repair of electronic control equipment; workers in establishments producing electricity, steam, or heated or cooled air primarily for sale; and boiler tenders.

Material Movement and Custodial

TRUCKDRIVER

(821: Motor vehicle operator)

Drives a truck within a city or industrial area to transport materials, merchandise, equipment, or workers between various types of establishments such as: Manufacturing plants, freight depots, warehouses, wholesale and retail establishments, or between retail establishments and customers' houses or places of business. May also load or unload truck with or without helpers, make minor mechanical repairs, and keep truck in good working order. *Salesroute and over-the-road drivers are excluded.*

For wage study purposes, truckdrivers are classified by type and rated capacity of truck, as follows:

Truckdriver, light truck
(straight truck, under 1 1/2 tons, usually 4 wheels)
Truckdriver, medium truck
(straight truck, 1 1/2 to 4 tons inclusive, usually 6 wheels)
Truckdriver, heavy truck
(straight truck, over 4 tons, usually 10 wheels)
Truckdriver, tractor-trailer

SHIPPER AND RECEIVER

(4753: Traffic, shipping and receiving clerk)

Performs *clerical and physical* tasks in connection with shipping goods of the establishment in which employed and receiving incoming shipments. In performing day-to-day, routine tasks, follows established guidelines. In handling unusual nonroutine problems, receives specific guidance from supervisor or other officials. May direct and coordinate the activities of other workers engaged in handling goods to be shipped or being received.

Shippers typically are responsible for most of the following: Verifying that orders are accurately filled by comparing items and quantities of goods gathered for shipment against documents; insuring that shipments are properly packaged, identified with shipping information, and loaded into transporting vehicles; preparing and keeping records of goods shipped, e.g., manifests, bills of lading.

Receivers typically are responsible for most of the following: Verifying the correctness of incoming shipments by comparing items and quantities unloaded against bills of lading, invoices, manifests, storage receipts, or other records; checking for damaged goods; insuring that goods are appropriately identified for routing to departments within the establishment; preparing and keeping records of goods received.

For wage study purposes, workers are classified as follows:

Shipper
Receiver
Shipper and receiver

WAREHOUSEMAN

(4754: Stock and inventory clerk)

As directed, performs a *variety* of *warehousing* duties which require an *understanding of the establishment's storage plan*. Work involves *most of the following*: Verifying materials (or merchandise) against receiving documents, noting and reporting discrepancies and obvious damages; routing materials to prescribed storage locations; storing, stacking, or palletizing materials in accordance with prescribed storage methods; rearranging and taking inventory of stored materials; examining stored materials and reporting deterioration and damage; removing material from storage and preparing it for shipment. May operate hand or power trucks in performing warehousing duties.

Excludes workers whose *primary* duties involve shipping and receiving work (see Shipper and receiver and Shipping packer), order filling (see Order filler), or operating power trucks (see Power-truck operator).

ORDER FILLER

(4754: Stock and inventory clerk)

Fills shipping or transfer orders for finished goods from stored merchandise in accordance with specifications on sales slips, customers' orders, or other instructions. May, in addition to filling orders and indicating items filled or omitted, keep records of outgoing orders, requisition additional stock or report short supplies to supervisor, and perform other related duties.

SHIPPING PACKER

(8761: Hand packer and packager)

Prepares finished products for shipment or storage by placing them in shipping containers, the specific operations performed being dependent upon the type, size, and number of units to be packed, the type of container employed, and method of shipment. Work requires the placing of items in shipping containers and *may involve one or more of the following*: Knowledge of various items of stock in order to verify content; selection of appropriate type and size of container; inserting enclosures in container; using excelsior or other material to prevent breakage or damage; closing and sealing container; and applying labels or entering identifying data on container. *Packers who also make wooden boxes or crates are excluded.*

MATERIAL HANDLING LABORER

(8726: Freight, stock, and material mover, not elsewhere classified)

Performs physical tasks to transport or store materials or merchandise. Duties involve *one or more of the following:* Manually loading or unloading freight cars, trucks, or other transporting devices; unpacking, shelving, or placing items in proper storage locations; or transporting goods by handtruck, cart, or wheelbarrow.

Excluded from this definition are workers whose primary function involves:

a. Participating directly in the production of goods (e.g., moving items from one production station to another or placing them on or removing them from the production process);
b. Stocking merchandise for sale;
c. Counting or routing merchandise;
d. Operating a crane or heavy-duty motorized vehicle such as forklift or truck;
e. Loading and unloading ships (longshore workers); or
f. Traveling on trucks beyond the establishment's physical location to load or unload merchandise.

POWER-TRUCK OPERATOR

(8318: Industrial truck and tractor equipment operator)

Operates a manually controlled gasoline- or electric-powered truck or tractor to transport goods and materials of all kinds about a warehouse, manufacturing plant, or other establishment.

For wage study purposes, workers are classified by type of powertruck, as follows:

Forklift operator

Power-truck operator (other than forklift)

GUARD

(5144: Guard and police, except public service)

Protects property from theft or damage, or persons from hazards or interference. Duties involve serving at a fixed post, making rounds on foot or by motor vehicle, or escorting persons or property. May be deputized to make arrests. May also help visitors and customers by answering questions and giving directions.

Guards employed by establishments which provide protective services on a contract basis are included in this occupation.

For wage study purposes, guards are classified as follows:

Guard I

Carries out instructions primarily oriented toward insuring that emergencies and security violations are readily discovered and reported to appropriate authority. Intervenes directly only in situations which require minimal action to safeguard property or persons. Duties require minimal training. Commonly, the guard is not required to demonstrate physical fitness. May be armed, but generally is not required to demonstrate proficiency in the use of firearms or special weapons.

Guard II

Enforces regulations designed to prevent breaches of security. Exercises judgment and uses discretion in dealing with emergencies and security violations encountered. Determines whether first response should be to intervene directly (asking for assistance when deemed necessary and time allows), to keep situation under surveillance, or to report situation so that it can be handled by appropriate authority. Duties require specialized training in methods and techniques of protecting security areas. Commonly, the guard is required to demonstrate continuing physical fitness and proficiency with firearms or other special weapons.

JANITOR, PORTER, OR CLEANER

(5244: Janitor and cleaner)

Cleans and keeps in an orderly condition factory working areas and washrooms, or premises of an office, apartment house, or commercial or other establishment. Duties involve *a combination of the following*: Sweeping, mopping or scrubbing, and polishing floors; removing chips, trash, and other refuse; dusting equipment, furniture, or fixtures; polishing metal fixtures or trimmings; providing supplies and minor maintenance services; and cleaning lavatories, showers, and restrooms. *Workers who specialize in window washing are excluded.*

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